

American Aviation

20¢

Year (24 Issues) \$3
Three Years \$5

Vol. 6. No. 9

OCTOBER 1, 1942

The Independent
Voice of
American Aeronautics

Published Twice a Month at Washington, D. C.



Caribbean Irony

CREDIT for the crowning irony of the year must go with all due deference to the Civil Aeronautics Board. On September 10 it declared a shortage of air transportation facilities to exist in the Caribbean and it formally invited carriers to apply for temporary certificates in order that this critical shortage might be alleviated.

In 1938 Congress created an agency to regulate and expand air transportation under an unusually broad legislative charter. The Civil Aeronautics Authority, predecessor of the CAB, dawdled, procrastinated, fiddled away priceless time in accomplishing virtually nothing.

Today the CAB is in the anomalous position of having to ask for applications. But where in the world is an air carrier going to get equipment? Those valuable days when aircraft factories were begging for orders and when air carriers wanted to purchase equipment but dared not to because of the parsimonious attitude of the Board and its predecessor, have gone until after the war. Shades of the Ed Nobles and the Clinton Hesters and the Ed Werners and others of their debating society conferees who littered away their time on trivialities and details instead of assuming with manly vigor the responsibilities handed to them by Congress!

(Turn to page 26)

Criticism of U. S. Fighters Melting as More Facts Pile Up



One AAF, One RAF—Part of a Controversy

A P-38 (left) and a Spitfire. U. S. Fighters Are Now Proving Themselves in Combat

Discouraging Outlook

(An Editorial)

THE chiefs of the British and American bomber commands believe Germany can be defeated by aerial bombing of industrial areas, transportation, utilities, and bases.

The stirring words of Air Marshal Sir Arthur T. Harris, head of the RAF Bomber command, that consistent mass raids by heavy bombers over strategic areas of Germany can bring that phase of the global war to a close, are well known.

Now comes Maj. Gen. Ira C. Eaker, commander of the U. S. bombers in England, who said a few days ago: "I believe it is possible to destroy the enemy from the air. . . . There are now enough airdromes in the British Isles built or building to accommodate all the Allied air forces needed for the destruction of Germany . . . There's nothing that can be destroyed by a gun that can't be destroyed by bombs."

This is most encouraging.

But the outlook on the home front is anything but encouraging. The words of Air Marshal Harris and of Maj. Gen. Eaker fall into unbelieving ears. The public is ready to accept the full realization of airpower. But the major thinking in the inner councils is still tied to 1917 and 1918. The High Command is still building for a ten or thirteen million man Army for costly land battles, while the second front in the air is only getting secondary attention.

(Turn to page 11)

Senate Due to Change Trend of Unfair Barbs

By WAYNE W. PARRISH

A MERICAN fighting planes are still taking it on the chin as a result of a deluge of criticism from England, from the United States Senate and from other sources.

But the tide of criticism, which has had a serious destructive effect on civilian morale, is beginning to swing the other way as far as sources in the U. S. are concerned. The facts are becoming known.

At least this much is certain: the vast bulk of criticism is pure bunk. Most of it is based on misinformation. Most of it originated with laymen who misconstrued less harmful criticism, and who have no conception of the fighting job to be done.

The most that can be said is that the Navy sent some of its pilots antiquated and slow stuff to fly in Alaska, but the Navy has been behind the parade in Alaska and the Aleutians all along and the pilots were unquestionably justified in beefing about the equipment. They should have beefed. But the use of old equipment in Alaska has been taken to mean that the front-line U. S. fighters are inferior

(Turn to page 6)

REPUBLIC P-47 THUNDERBOLT

"A Tremendous Package of Power"

"The shining symbol of American potential superiority in the air." . . . That is how one writer in a recent issue of a national magazine describes the Republic P-47 THUNDERBOLT, the great high-altitude fighter plane of the U. S. Army Air Forces. THUNDERBOLTS, shown in this flight photograph, are giant snub-nosed, single-place, all-metal planes, weighing in excess of 13,000 lbs. A 4-blade, 12-ft. Curtiss propeller driven by a Pratt & Whitney air-cooled radial 18-cyl. engine of 2,000 horsepower equipped with a special turbo-supercharger, gives these massive, heavily armored fighters a wide margin of superiority in speed, and ability to climb to altitudes so amazing that Government censorship forbids mention of them.



REPUBLIC AVIATION

REPUBLIC AVIATION CORPORATION



FARMINGDALE, L. I., NEW YORK

Kaiser and Hughes to Build Three Cargo Planes at Cost of \$18,000,000

Ships Will Be Double Size of Martin Mars

AT THE close of the second week of his second trip to Washington Henry J. Kaiser started home with a letter of intent in his pocket for three cargo planes.

That it was not for his original proposal of 5,000 Mars flying boats, and that it called for all the ground-work to be done by Howard Hughes rather than by Kaiser's shipyards, seemed not greatly to bother either Kaiser or the Washington officials who dealt with him.

At a small and informal press conference following his receipt of the formal letter of intent, Kaiser voiced pleasure at the way things had worked out, praise of Donald M. Nelson, and anxiety to get out of Washington and back to work. With K. F. Ridley, Hughes' engineer, Kaiser displayed a sketch of his twin-hulled craft and answered questions.

Many details of the plane, its size, range and load capacity, were withheld at the request of WPB officials. Only significant disclosures were that the big ship will be "about twice the size of the Mars," and will have seven engines along the leading edge of the high wing, two on each outer wing and three between the twin hulls. The engines, it was indicated, would be somewhere in the 2,000 hp range.

Kaiser stressed that aside from engines, propellers and instruments, which have been guaranteed by the Army and Navy for the three experimental planes, no demands for parts, materials or manpower would be made on the established aircraft program. Hughes' man indicated a large engineer training program would be launched immediately to provide needed talent without drawing on the industry. He estimated Hughes' present 100-man engineering force would have to be doubled.

Construction is to be of Duramold wherever possible. Estimates indicate that more than 60% of the empty weight of the ship will be in lumber, with steel and aluminum together representing another 33%.

In addition to engineering the plane, Hughes' organization will be responsible for designing and fabricating all parts. Kaiser stated that no site has yet been selected for final assembly. The Hughes plant, it was pointed out, is neither large enough nor close enough to water for complete assembly of a plane of such size.

Announcement of the project by Donald M. Nelson includes the following statements:

"A letter of intent has been given Mr. Kaiser by the Defense Plant Corporation, authorizing Mr. Kaiser and Mr. Hughes to proceed with the design, engineering and construction of three cargo planes of the flying boat type, one of the planes to be tested statically and the other two to be completed for flying tests. The letter states that the design and engineering of the planes are to be approved by representatives of the National Advisory Commission for Aeronautics and the Civil Aeronautics Authority.

"Engineering and construction are to be done under the direction of Mr. Hughes in his plant at Culver City, California. It is estimated by Mr. Kaiser and Mr. Hughes that the first plane can be completed in 15 months, the second in 20 months, and the third in 25 months. Cost of the three planes is estimated to run to approximately \$18,000,000.

"Mr. Nelson said that while this work is proceeding Mr. Kaiser will draw up plans for a plant in which

planes of this type could be produced on a volume basis, so that construction of the plant could be started at any time that the military services decide that they want substantial numbers of this type of plane.

"Construction of duramold, a combination of plywood and plastic material, is contemplated for the planes. Engines, propellers and instruments will be made available by the War and Navy Departments.

"Any cargo plane program resulting from this step, Mr. Nelson pointed out, would be in addition to the regular Army and Navy cargo plane program, which is substantial and which is proceeding in step with the military plane program.

"In the letter authorizing the design and construction of the planes, neither Mr. Kaiser nor Mr. Hughes is to derive any profit from designing and manufacturing these planes but are contributing their time and talent in the interest of what they believe will be a major contribution to the war effort."

Admiral Towers Promoted; Heads Pacific Air Force

Rear Admiral John H. Towers, described as "Aviator Number One of the U. S. Navy," has been raised to the rank of Vice Admiral and assigned to the newly-created post of Commander Air Force, Pacific Fleet.

Adm. Towers' new billet is called

"the most important air command afloat in the Navy." He will also be, ex officio, principal air adviser to Adm. Nimitz, commander in chief of the Pacific Fleet.

At the same time, the Navy

announced that Rear Admiral John S. McCain will relieve Adm. Towers as chief of the Bureau of Aeronautics. Adm. McCain will come from "an important air command in the Pacific Fleet."

Promotion of air officers has been slow in the Navy, and the advancement of Adm. Towers is looked upon as encouraging. However, skepticism prevails in aviation circles as to what progress he will be able to make against old-line officers in creating a true air command in the Pacific.

Adm. Towers was one of the first three naval officers assigned to aviation duty. At his own request he was ordered to Hammondsport, N. Y. in 1911 for flight instruction under Glenn H. Curtiss, and later acted as test pilot for Mr. Curtiss.

He later organized and commanded a unit of flying boats known as the "NC" type, and in May, 1919, the unit made the first trans-Atlantic flight. He served in several capacities aboard the first aircraft carrier, USS Langley, finally commanding it.

After numerous Washington assignments, he became chief of the Bureau of Aeronautics in June, 1939. When he arrives in the Pacific, he will relieve Vice Admiral William F. Halsey Jr. of command and advisory duties, and leave him free as a task force commander.

Adm. McCain was an old-line naval officer for many years, taking his flying training at Pensacola in 1935-36. After receiving his wings, he was assigned to duty as commander, Fleet Air Base, Coco Solo, Canal Zone. He has served as commander of the USS Ranger, the San Diego Naval Air Station and Aircraft Scouting Force.

Maybe Mr. Kaiser Can Get Enough Scrap Metal Right in Washington to Do the Job



Adm. McCain

Army, Navy Order Large Increase in Use of Civil Pilot Training Facilities

Now Contract for More than 110,000 Courses

NEGOTIATIONS during recent weeks between the Army, Navy and CAA appear to have wiped out completely earlier opportunities for allegation that the services are refusing to make use of facilities of the Civilian Pilot Training Program.

Growing indications that CPT might be called on to carry out a capacity training program were climaxed recently by a CAA announcement that new Army and Navy orders "will result in almost complete utilization of existing CPT facilities."

A statement by William A. M. Burden, Special Aviation Assistant to the Secretary of Commerce, said the total number of courses contracted for had been increased to over 110,000.

"The new quotas," Burden said, "completely fill the capacity of the advanced training courses and come near to filling the immediate capacity of the elementary courses. While the operators have enough elementary aircraft to take on another 20,000 elementary courses, this cannot be done until the necessary instructors can be trained."

"The elementary training, of course, covers only a preliminary part of a pilot's training. Many Army and Navy trainees take as many as four or five CPT courses before going to active duty. Discussion for the utilization of these additional courses, as the instructors to give them can be trained, are under way between the Army and CAA."

The instructor problem, it has been indicated by other sources, may in part be remedied through policy now under discussion in Washington whereby instructors, pilots and other "migratory" personnel in civil aviation might be requested not to change jobs without sanction of their employers and approval of military authorities under whom their work is carried out.

Mentioning a recent survey showing that several thousand CPT-type planes have been grounded for the duration by civilian owners and could be purchased, rented, or requisitioned if needed to expand the CPT, the CAA announcement states:

"While it is true that in addition (to present equipment) there

are a large number of light planes suitable for giving elementary training, it will be necessary to train several thousand instructors before these ships can be used."

Indicating that the new program represents an expansion, rather than a change in the type of training being given when the Army-Navy-CPT controversy first broke out (AMERICAN AVIATION, July 1), CAA explains that the now-scheduled 110,000 courses includes pre-combat pilots for the Navy, but only "service" pilots for the Army. There has been no indication that any of the thousands of men now signed up and waiting for regular Air Forces flight training will be assigned to CPT for preliminary work.

"The CAA," official announcement reads, "is training pilots in five categories requested by the armed forces. It is giving initial flight training to Navy reservists who will become combat pilots, and it is also producing instructors and

transport pilots for the Navy. For the Army, in addition to instructors and transport pilots, the CAA is training glider pilots and liaison pilots. . . . The increased quotas apply to all categories."

Applicants for the CAA-Army courses may be up to 36 years old, and, while they must pass mental and physical examinations, these tests are less severe than for regular combat pilots. Previous flight training or experience, it is stated, is helpful but not required for enlistment. During training, men receive room and board and insurance, and upon graduation may be eligible for a commission.

CAA-Navy trainees are accepted only through Naval Aviation Cadet Selection Boards. However, men with adequate flying experience and other qualifications who are not more than 32 years old will immediately be given probationary commissions as Ensigns or Lieutenants (j.g.) when assigned to further training.

District Representatives, CAA Pilot Training Program

PORLAND, ME.: Horace Milks, Administration Bldg., Municipal Airport	CLEVELAND, OHIO: Harold G. Myers, Aeroways, Inc., Cleveland Municipal Airport
WATERVLIET, N. Y.: Lyle Gadapee, Albany Airport	LANSING, MICH.: Allen W. Devoe, Room 4, Administration Bldg., Capitol City Airport
BUFFALO, N. Y.: William Mason, Municipal Airport	DALLAS, TEX.: Edward E. Bartholomew, Room 231, Administration Bldg., Love Fld.
BURLINGTON, VT.: Robert H. Jones, Burlington Municipal Airport	AMARILLO, TEX.: John K. Lyle, Post Office Box 1228, English Field
INSTITUTE, W. VA.: Leroy C. Weland, Wertz Field	OKLAHOMA CITY, OKLA.: Maxwell E. Pitcher, P. O. Box 5098, Farley Station
GARDEN CITY, L. I., N. Y.: John C. Seal, Hangar E, Roosevelt Field	LITTLE ROCK, ARK.: Guy Tharburn Mann, 328 P. O. Bldg.
AMBLER, PA.: John S. Broone, Hangar Bldg., Wings Field	HOUSTON, TEX.: D. C. McPherson, P. O. Box 2594, Municipal Airport
NEW CUMBERLAND, PA.: Robert C. Howe, State Airport	SAN ANTONIO, TEX.: George Follete, P. O. Box 2340, Stinson Field
PITTSBURGH, PA.: Fred E. Ennis, Allegheny County Airport	ALBUQUERQUE, N. MEX.: Richard Scholtz, 2910 E. Central Avenue
ROCKVILLE, MD.: E. W. Robertson, Congressional Airport, P. O. Box 232	KANSAS CITY, MO.: Frank L. Jones, 120 Richards Road, Municipal Airport
CHARLOTTE, N. C.: Roland C. Newman, Administration Bldg., Douglas Municipal Airport, P. O. Box 974	ST. LOUIS, MO.: David L. Baker, Box 127 Lambert Field Branch
JACKSONVILLE, FLA.: John Merritt, Administration Bldg., Municipal Airport	DES MOINES, IOWA: Paul C. Cannon, Room 207-A, Old Federal Bldg.
BIRMINGHAM, ALA.: William E. Feast, Municipal Airport	CHEYENNE, WYO.: Donald Mason, Municipal Airport
JACKSON, MISS.: William F. Sylvester, City Auditorium	LINCOLN, NEBR.: Robert E. Heidel, 726 Terminal Bldg., 921 O St.
NASHVILLE, TENN.: Chadwell Bridges, Aviation Administration Bldg., Berry Fld.	WICHITA, KANS.: George R. Mahncke, Municipal Airport
FARGO, N. D.: Roy E. Peterson, 621 First Ave., Room 211	DENVER, COLO.: Ralph D. Thissell, Administration Bldg., Municipal Airport
MINNEAPOLIS, MINN.: George Holey, Wold Chamberlain Fld., Administration Bldg.	TUCSON, ARIZ.: Alfred J. Dewey
CUDAHY, WIS.: Carl E. Van Dyke, Administration Bldg., Milwaukee County Airport	BISHOP, CAL.: Robert C. Boone, 2nd Floor, Joseph Bldg.
JOLIET, ILL.: Hubert C. Patrick, Administration Bldg., Joliet Municipal Airport	RENO, NEV.: Robert Trennert, Reno Sky Ranch
PEORIA, ILL.: Elmer E. Clark, Hangar No. 1, Peoria Municipal Airport	SALT LAKE CITY, UTAH: M. E. Beaman, Salt Lake Municipal Airport
INDIANAPOLIS, IND.: Richard F. O'Connell, Roscoe Turner Aero. Corp., Municipal Airport	KINGMAN, ARIZ.: Jack Gale Webb, Chamber of Commerce Bldg.
POR COLUMBUS, OHIO: William M. Brown, Rms. 206, 208, 209, Administration Bldg.	SPOKANE, WASH.: Lewis S. Becker, Feits Field
YAKIMA, WASH.: Charles E. Mears, 1014 Larson Bldg.	HELENA, MONT.: Charles W. Cross, Municipal Airport
	BOISE, IDAHO: Albert H. Lane, 326 Capital Securities Bldg.

American Aviation Magazine, Vol. 6, No. 9, Oct. 1, 1942. Published on the 1st and 15th of each month by American Aviation Associates, Inc., American Bldg., Washington, D. C. Printed at The Telegraph Press, Cameron & Kelker Sts., Harrisburg, Pa. Subscription rates for U. S., Mexico, Central and South American countries: \$3 for 1 year; \$4 for 2 years; \$5 for 3 years. Canada: \$3.50 for 1 year; \$6.50 for 3 years. All other countries: \$4.50 for 1 year; \$9.50 for 3 years. Entered as second class matter at Washington, D. C., and Harrisburg, Pa.

16 Air Officers Are Promoted

Sixteen aviation officers in the Army of the United States were nominated for temporary promotion by President Roosevelt on Sept. 21. They were confirmed by the Senate the next day.

Brig. Gen. Ira C. Eaker, commanding general of the U. S. bomber command in England, was temporarily promoted to major general. The same promotion was accorded Brig. Gen. Barney McGiles.

The following colonels were promoted temporarily to brigadier generals: Russell E. Randall, Robert W. Douglass Jr., Fred S. Borum, Raymond E. O'Neill, Robert B. Williams, Robert M. Webster, Frederick M. Hopkins Jr., Howard L. Ramey, Harvey S. Burwell, Edward M. Morris, William W. Welsh, Orville A. Anderson, Robert V. Ignico and Julian B. Haddon.

CWTI to Train Women Engineers

Women are now admitted to either the 11 months' aeronautical engineering course or three months' training in aeronautical drafting at the Curtiss-Wright Technical Institute, Glendale, Cal.

"Demands of the aircraft industry for increased numbers of engineers and the growing shortage of manpower have caused us to open the school to women," explained Major C. C. Moseley, president, adding, "There's no reason why feminine aeronautical engineers both during the war-time emergency and in the post-war upswing of commercial aviation, cannot serve as satisfactorily as men."

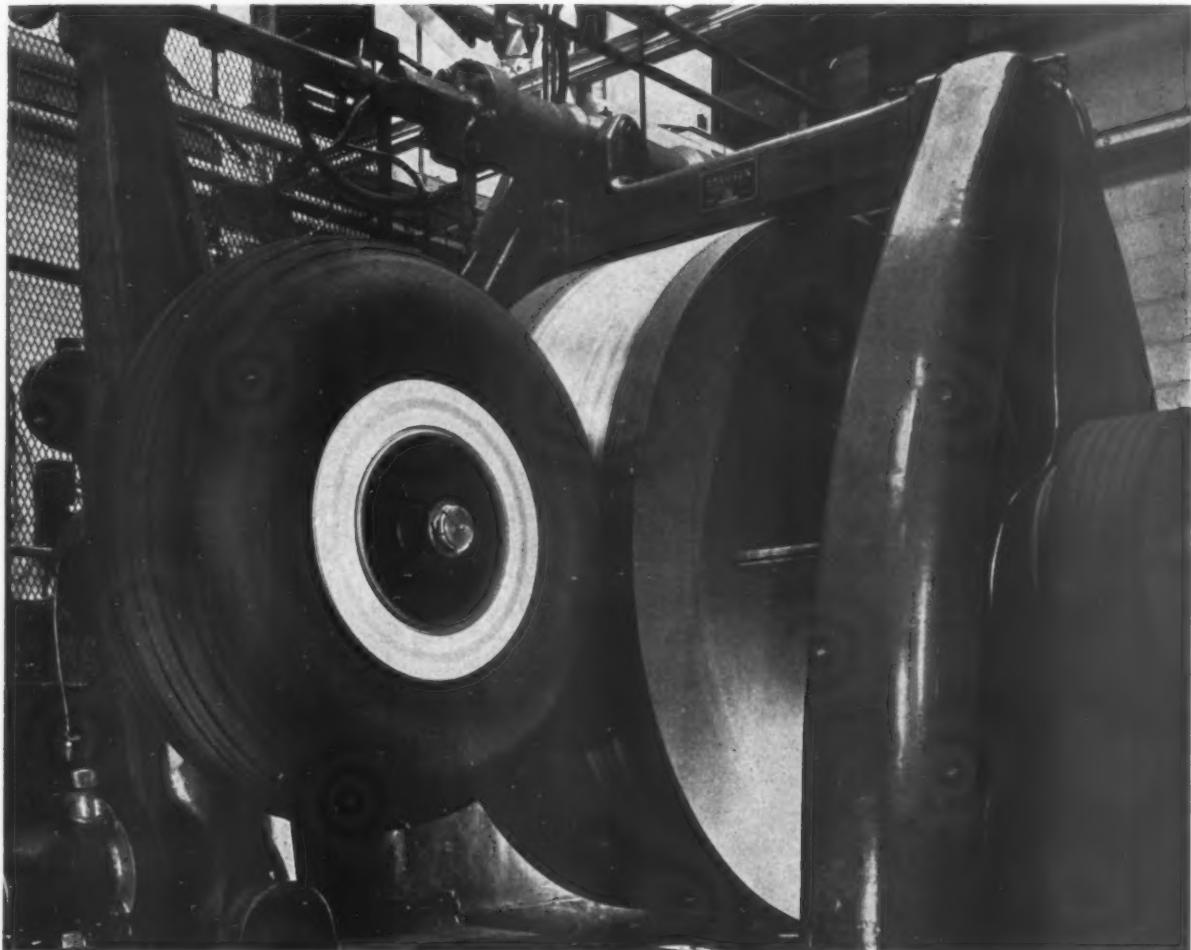
Weather Bureau Seeks Women Meteorologists

U. S. Weather Bureau announces it needs 75 women pilots to train for careers in meteorology. Successful trainees will be appointed as Junior Meteorologists at \$2,000 per year.

Candidates having the requirements of one year of college physics and one year of mathematics, including calculus, will receive a nine months' training course at M.I.T., the University of Chicago, California Institute of Technology at Pasadena, the University of California at Los Angeles, or New York University. In some cases the mathematical requirement can be satisfied during training.

Besides tuition, the Government pays each trainee a \$75 monthly allowance, and provides textbooks valued at \$50. Passing a Civil Service examination is necessary before formal appointment. Men holding private pilot's licenses will also be accepted.

"COMING IN AT 100!"



MAKE it 75—100—150 miles per hour... this "landing field" in our laboratory takes them at all speeds. Hour after hour, day and night, on this inertia testing machine, simulated landings are made over and over. Here we determine, in days, wheel and brake performance and landing results that would require long periods of service for equivalent experience records.

And these tests are being made at

ever higher energy loads and landing speeds. We are looking ahead—with continuous development work to provide better wheels and brakes for advanced aircraft design.

For years we've been at it. Developing, testing, proving, perfecting under the watchful eyes of men and instruments. With what results? . . . from the far corners of the world as from home fields comes the answer:

Hayes Wheels and Brakes give the pilot the assurance of reliability in controlled take-off and landing.



HAYES AIRCRAFT WHEELS AND BRAKES ...

HAYES INDUSTRIES, INC.

Home Office: JACKSON, MICHIGAN, U. S. A.

Chamber Says Our Fighters Are World's Most Versatile

Receiving special permission from military sources to reveal hitherto secret information about the qualities of our fighter planes, Aeronautical Chamber of Commerce, through its Aviation News Committee, issued a special report to hundreds of the country's newspapers Sept. 18.

Although making no reference to the recent controversy in Britain and in this country's newspapers and on Capitol Hill, the report makes clear that in its seven types of fighters the U. S. outstrips the fewer models of other nations in many categories.

"The air forces of the Army and Navy now have, in seven different types of fighter planes, each designed and built for a specific purpose, the most versatile fighter force of any nation," the Chamber says. "We are now the only nation with fighters fitted for battle in virtually any situation on any war front in the world."

"Thousands of these fighters are in action overseas. More than 2,000 of one type, among the seven, have been sent to the war fronts during the last 12 months."

"Ours are the only air forces as yet to develop so many different types of successful fighter aircraft, especially designed for separate and distinct missions. We are the only nation to develop all our fighter planes for combat service in all climates and all temperatures. These machines are operating day and night over all continents and all fronts from Iceland to Australia. Our air forces are the only ones to install all forms of pilot protection in all fighters. They have leak-proof fuel tanks, the most complete armor plate protection, the heaviest fire power, the longest cruising range and the greatest ability to absorb enemy gunfire and sustain damage without being put out of action."

More Accurate Guns

"On the average, our planes carry larger quantities of ammunition. Our cannon-powered fighters use shells twice the size used by any other fighter anywhere. The .50-caliber machine guns on our fighters have a higher muzzle velocity than most enemy planes. Therefore, they are more accurate, more penetrating and more destructive. They will penetrate without deflection the armor plate on any enemy airplane that has appeared to date."

"These Army and Navy fighter planes, each designed for specific work, are the concrete results of years of development work by the experienced aircraft industry working under directives established by Lieut. Gen. Henry H. Arnold, commanding the Army Air Forces, and Rear Admiral John H. Towers, chief of the Navy's aviation, both pioneer airmen who have had continuous experience in air force develop-

ment from the beginning of military aviation."

"The Army's Bell P-39 Airacobra, powered by an Allison engine, is the only single-engine fighter in the world with a 37-mm cannon. It also carries a number of both heavy and light machine guns. Its three-wheel landing gear permits it to operate out of small, temporary or bomb-pocked fields. Developed to be a destroyer of heavily armored bombers and to attack armored columns on the ground, the Airacobra has been in successful combat at heights of 30,000 feet. In recent months it has achieved a better than four-to-one record over the Jap Zero. On the Russian front, official records state, it has bested the Nazis in every fight, and they are afraid of it."

"The Army's Curtiss P-40E Kittyhawk and its new brother, the P-40F Warhawk, are the most discussed fighters. There have been so many of these planes in action over so many fronts that they have caused high praise and some criticism in comparison with foreign models. The Kittyhawk, Allison-powered, has proven to be the best fighter in desert warfare, better than any of the Axis planes. It has sufficient cooling area to keep it up in extreme heat. All the P-40 fighters are also more than holding their own on the Pacific fronts where they have defeated the Jap Zero in every engagement."

"The Curtiss P-40F Warhawk, its Packard Rolls Royce-Merlin engine being the same type and power of the Spitfire, is in combat service overseas where it is flying as high and effectively as any enemy plane yet encountered. This is the seventh P-40 model, and its performance compares favorably with its contemporaries, the fifth Spitfire, the Hurricane, the eighth Messerschmitt, the last Focke-Wulf experimental and the latest Zero."

"Among the two Navy fighter planes which have won distinction in this war is the Navy's Grumman Wildcat F4F4, a shipboard fighter powered by a twin-Wasp



Bell's P-39

"4 to 1 Over the Zero"

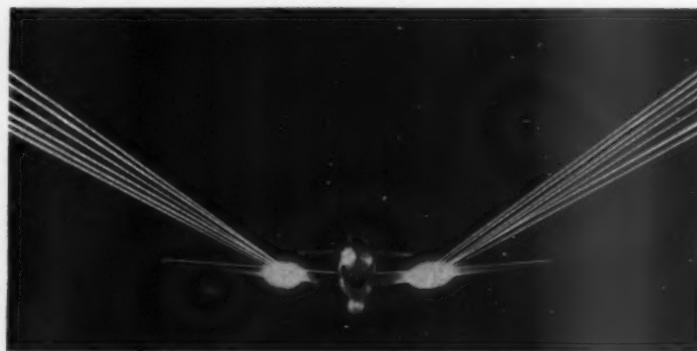
Pratt & Whitney aircooled engine and designed for carrier operations in all climates and against any type of enemy aircraft. It has been in several heavy Navy engagements against the Japs and has a better than three-to-one record over the Zero, although in most battles outnumbered. One Wildcat squadron downed 54 Jap fighters and bombers in a series of engagements and lost only two planes.

"One of the most effective fighters in any service is the Army Air Forces' Lockheed P-38 Lightning, a twin-engine, Allison-powered single-place pursuit ship designed for interception and attack, to dive into enemy fighters and bombers and blast them out of the sky. It carries cannon and machine guns. Hundreds of these planes equip the interceptor squadrons guarding our coastal frontiers on both the Atlantic and the Pacific. The Lightning weighs nearly seven tons, yet can get off the ground quickly and climb to over 35,000 feet with speed. The Germans have tried to duplicate this twin-engine interceptor without success."

"The North American Army P-51 Mustang, with single Allison engine, was designed especially for ground force cooperation. The Mustang combines high speed, high maneuverability and plenty of heavy fire power. The British have been using it with devastating effect in their operations in North France. This plane is rated among the best."

"The Army Air Forces' new Republic P-47 Thunderbolt, with which squadrons are now being

(Turn to page 9)



Curtiss P-40E

"The Best Fighter in Desert Warfare"

Criticism Melts

(Continued from page 1)

to those of Great Britain and Germany. Such is not the case.

Criticism from England is becoming more and more irksome to quarters in the U. S. Invariably the British are referring to the specific European theatre of war in which the English are most interested. Much of the best U. S. fighting equipment is not yet in service in England. The British themselves admit this. Some of the early models are not the best types in the European theatre—they were designed originally for other uses. But one does not just press a button and conjure up vast fleets of top-notch fighting planes for specific areas overnight.

There is no doubt that criticism from England, misconstrued by some newspaper correspondents and repeated over here, has had a serious morale effect which is hard to overcome.

Actual combat results give U. S. an excellent box score to do. U. S. experts are endeavoring to get this story across on ground that the actual box score is the result of all tests of equipment.

Probably the most serious criticism has come from the Senate when Senator Truman's investigating committee blossomed forth with criticism that our bombers and interceptors were without equal in the world, but that our pursuit planes were behind the parade. Unfortunately the Senator was basing his remarks on the combat work of a few types, mostly old, in one combat area, and was not speaking authoritatively or accurately about our front-line fighters now coming off the assembly lines.

Truman Gets Facts

It can be said reliably that Senator Truman will not be repeating his earlier criticism. He has been given a virtual avalanche of confidential data showing that while U. S. fighters (not the old stuff) came up against actual combat, results were anything but disappointing.

Congressman Dow Harter, chairman of the aviation subcommittee of the House military affairs committee, has started out after Senator Truman's fallacious criticism.

The U. S. has had all sorts of airplanes. Obviously the old models are not going to perform top line against the best of the enemy fighters. No Congressional committee has delved into the overall picture to compare our newest fighters with the newest enemy planes on a comparable basis.

In the Far East the Jap Zero surprised everyone by appearing as a very light, under-armed and under-armored maneuverable fighter. Obviously our heavily-armed

(Turn to page 11)



EYES, EARS AND A STRONG ARM - FOR THE NAVY!

DESTINED TO SEEK OUT AND STRIKE DOWN the enemy on the seven seas, new Ryan-built Navy SOR-1 warplanes will soon be rolling off our assembly lines in volume to join the growing airmadas of the U.S. and United Nations.

TWENTY YEARS OF RYAN "KNOW HOW" insures both quantity and quality production of these formidable planes, built to better perform one of the biggest jobs at hand—scouting the seas to provide air protection and striking power against Axis submarines and war ships. All-out production of these Navy aircraft is but one of many Ryan assignments for victory.

RYAN AERONAUTICAL COMPANY



San Diego, California

MEMBER, AIRCRAFT WAR PRODUCTION COUNCIL, INC.

Ryan
A NAME OF MILITARY SIGNIFICANCE



1922 A Leader in Air Progress for Twenty Years 1942

Aircraft Officials Optimistic Over Nelson's Reorganization of WPB

Important Posts Filled by Wilson, Eberstadt

DURING the past few weeks there appears to have taken place, without fanfare, a major reorganization of the War Production Board.

Much of the clamor for such a reorganization earlier heard in Washington offices and seen in the press, died down before WPB Chairman Nelson began to act in answer to his critics.

As a result, his series of changes and appointments were accepted by most observers as individual developments and not as related steps toward a revitalized WPB.

Most recent move made by Nelson was the appointment of Ferdinand Eberstadt as Vice Chairman of WPB in charge of program planning and materials allocation. In order to centralize full control over the flow of materials in Eberstadt's hands, Nelson also named him Chairman of the Requirements Committee of WPB, succeeding J. S. Knowlson who will concentrate on U. S.-British coordination.

Understands Problems

Eberstadt, after spending the past year as civilian chairman of the Army Navy Munitions Board, probably knows as well as anyone in Washington what needs to be done toward scheduling production and allocating materials.

A few days prior to the Eberstadt appointment, Nelson named Charles E. Wilson, president of General Electric, to vice chairmanship of WPB in charge of all production.



Farewell: Albert I. Lodwick, left, owner and operator of two primary flight training schools in Florida bids Air Commodore D. V. "Andy" Carnegie goodbye just before he left for England where he will be in charge of all flight training for the RAF. Carnegie has been in Washington in charge of British training in the U. S. for the last 18 months.

Wilson's appointment was tied in with the naming of a WPB Production Executive Committee of which he was made chairman.

The Production Executive Committee, aside from its civilian chairman, is made up of the biggest "purchasing agents" of the biggest government purchasing agencies. Members are:

Lt. Gen. Brehon B. Somervell, Commanding General, Services of Supply, U. S. Army;

Maj. Gen. Oliver P. Echols, Commanding General, Materiel Command, Army Air Forces;

Vice Adm. Samuel M. Robinson, Director of Material and Procurement, U. S. Navy;

Rear Adm. Howard L. Vickery, Vice Chairman, U. S. Maritime Commission.

This committee, working as a part of WPB in seeing that the needs of each of the services are met properly and promptly, is expected to eliminate much of the lack of agreement which has been evident in WPB's dealings with the services. As it swings into action it is also expected to silence much of the popular conjecture that Nelson has been engaged in a struggle for power with military chiefs.

Washington aircraft officials, to whom Eberstadt's appointment was a welcome development, were equally pleased that an airman was given equal stature on the Production

Executive Committee with Army and Navy supply chiefs. They voiced hope that Gen. Echols would be able to hold his own in any controversy over the importance of the aircraft production program in relation to other Army and Navy requirements.

Prior to these appointments, Nelson had named still another man who will figure importantly in WPB's inner council. He is Ernest Kanzler, formerly WPB chief of war production in the automotive industry, now WPB Director General for Operations. This appointment was viewed with some apprehension by some old-line aircraft industry people who feared Kanzler might favor the new auto-aircraft makers. WPB aircraft officials, however, seem quite satisfied that Kanzler will be able to iron out kinks in various industry programs without playing favorites.

In appointing Kanzler, Wilson and Eberstadt to key positions in WPB Nelson did more than bring new blood into the organization. He brought in new, but not radical, ideas of how to get things done. It is indicated that these ideas are in close accord with the major contentions of WPB aircraft officials: that the program of every industry, military and civilian, should be planned strictly in accordance with stated military requirements; that production in every plant should be

Officers Must Fly in Raids — Eaker

Swivel chair operations alone won't do, is the effect of a new order by Brig. Gen. Ira C. Eaker, Commanding General of the U. S. Army Bomber Command, based in England. Henceforth all staff officers must accompany bombers in flight over enemy territory "as soon and often as practicable."

Gen. Eaker believes officers will have more practical ideas about fighting after they have experienced such operational flights. Officers have previously received orders to become qualified aerial gunners.

Gen. Eaker accompanied the U. S. Flying Fortress raid over Continent.

scheduled far enough in advance for every subassembly and part to be in the right place at the right time for final assembly; that there should be strict allocation of materials to each plant based on what is needed to meet schedule for a given period; that there should be a clear cut military preference list enabling the Requirements Committee of WPB to make allocations of material according to the importance of the end-product.

On all of these points, except possibly the last, Washington aircraft officials seem to feel great progress is underway. Reservations are made on the subject of relative importance of one item over another simply because the Requirements Committee has failed to promptly in making allocations. Requirements of each of WPB's 40-industry branches were turned over to the committee some time ago. It was expected that some industry would get only a small fraction of their stated needs, while others would get all or nearly all that was needed to keep plants moving according to schedule.

Shortly prior to the appointment of Eberstadt to full responsibility for the flow of materials it became apparent something was needed. The Requirements Committee was supposed to tell industry who should have how much. But the Committee had to go to Army and Navy to learn which should come first. Army and Navy were not in accord, and ANMB proved an inadequate bargaining agent.

It is now widely hoped that with Eberstadt in a better position to take direct action, the aircraft industry will be told just what percentage of its needs are to be granted. WPB aircraft officials seem confident the percentage will be high.

NAA Names Bright

H. Frederick Bright, formerly publicity manager of the Commerce Industry Association of New York, has been appointed publicity director of the National Aeronautic Association, editor of its publications *National Aeronautics* and the *Washington News*. He succeeds John B. Goodman, who has been commissioned a lieutenant (j.g.) in the U. S. Naval Reserve.

Fly
cker

as also
new one
er, Con-
S. An-
in Es-
f offic-
in flight
on and

cers w-
about a
experi-
icers h-
o beco-

the f-
over

advan-
l part
the rig-
that the
n of
ased
sched-
re sh-
refer-
ents Co-
location
the a-
ct.

ex-
ton a-
el ge-
ervative
relat-
ano-
iremen-
to a-
ons. It
s 40-
ned o-
me o-
ndus-
ction
other
that w-
ring s-

intma-
nsibil-
beca-
led. It
as su-
shou-
comme-
Navy
t. Am-
rd, a-
te be-

at v-
tation
raft in
at pa-
to b-
ls se-
will b-

ly pa-
ree
ork.
tor
on
l Ar-
who h-
(1-1

942

XUM



JOYCE
AVIATION, INC.

When Flivers Fill the Sky
YOU'LL KNOW THIS NAME BETTER

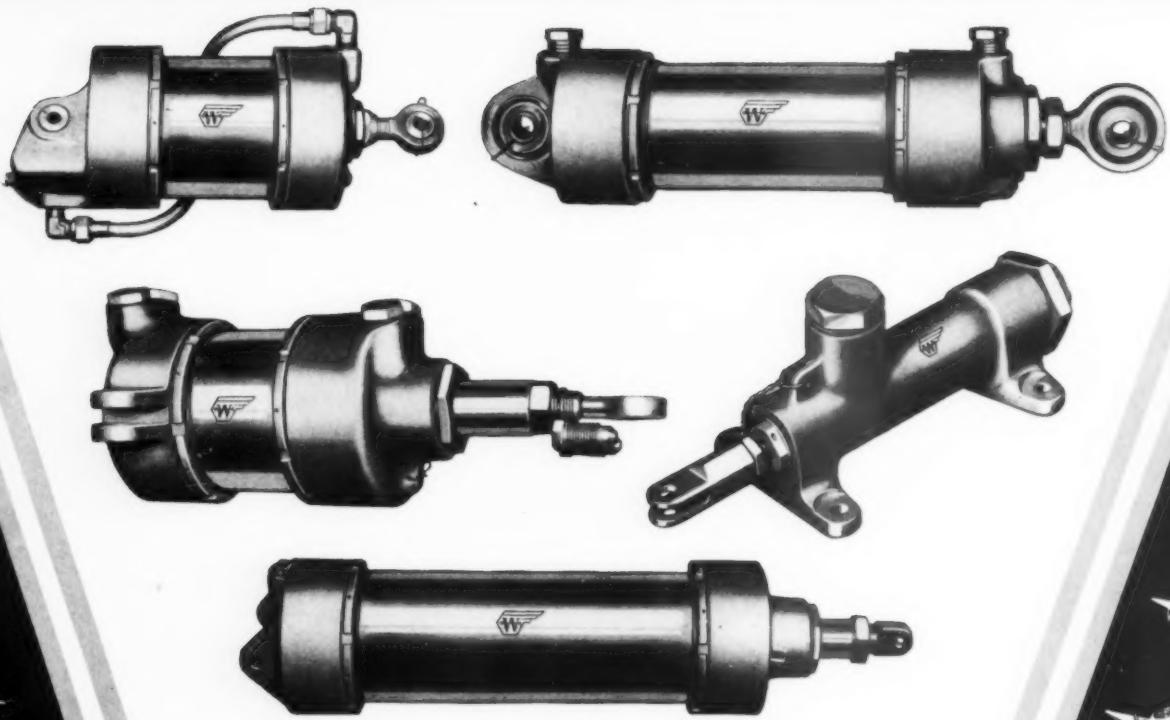
When war clouds have passed and peace-time flying brightens the
skies, you will know the name JOYCE even better than you do today.

AIRCHOX COMPANY
Division of

JOYCE Aviation, Inc.

General Offices, 8 So. Michigan Ave., Chicago

PARACHUTE HARDWARE • COLLAPSIBLE WHEEL CHOCKS • EXACT AIRSPEED COMPUTER • MOORING ANCHOR KIT
TOW-TARGETS FOR AERIAL AND ANTI-AIRCRAFT GUNNERY • AIRCRAFT SPINNER AND PROPELLER BLADES



WEATHERHEAD HYDRAULIC CYLINDERS

WEATHERHEAD hydraulic actuating cylinders are being supplied in volume to major aircraft companies.

Like all other Weatherhead airplane parts, these cylinders are manufactured to Air Corps, Navy, and "AN" specifications as standard production.

Each airplane part that Weatherhead produces has been engineered not only for performance, but also for mass production to provide the increasing output so essential today. In addition to hydraulic cylinders, these parts include Dural Tube and Pipe Fittings; Vacuum Selector and Check Valves; Hydraulic Check Valves; and High, Medium, and Low Pressure Hydraulic Flexible Hose Assemblies.

THE WEATHERHEAD CO.

Main Office: Cleveland, Ohio

Branch Offices—Detroit, Los Angeles,
New York St. Louis



WEATHERHEAD

and best
not man-
ment w-
hand, b-
armame-
planes
On the
a Zero,
cause t-
when h-
In Eu-
consider
armor t-
Army
that the
for U. S.
some ju-
Lockhe-
good re-
be print-
doubt t-
respect
English

A
Prob-
answer
from a
accurate
Aeronau-
merce,
Army A-
material
shape a-
presenta-
there n-
Why
from E-
much a
best fit-
great t-
liked fit-
America
British
they are
under-e-
but evi-
under-e-

A
If Se-
had co-
delega-
Alaska,
Navy, t-
been so
intended
erior" t-
the allo-
combat
ome to
a power
some da-

On the
caught
the Far
planes w-
ittle qu-
Difficul-
planes o-
to reaso-
equipme-
my res-
ments ha-
tain spe-
be exp-
detailed

me

Criticism Melts

(Continued from page 6)

and heavily-armored fighters could not maneuver as easily. An adjustment was called for. On the one hand, by removing some of our armament and armor, our own planes also became maneuverable. On the other hand, if any of our planes got in the right range of a Zero, there was a dead Jap because the Zero's simply blew up when hit.

In Europe, the Nazi fighters have considerably more armament and armor than the Jap Zeros. Our own Army officials have cabled back that there is no reason to apologize for U. S. equipment. And there are some juicy stories (one about the Lockheed P-38) which will make good reading when the reports can be printed which should leave little doubt that the Nazis have a heavy respect for our planes even if the English and the Senate don't have.

Accurate Statement

Probably the most intelligent answer to the criticism has come from a thoughtfully-prepared and accurate statement issued by the Aeronautical Chamber of Commerce, published in this issue. The Army Air Forces has issued much material but not in very usable shape and not too convincing in its presentation. But the facts are there nonetheless.

Why the criticism should emanate from England is a mystery inasmuch as the representation of our best fighters has not been very great to date. Perhaps the best-liked fighter of all is the North American Mustang. Even the British like it. As for the Germans, they are being very wary. No one under-estimates the German planes, but evidently the Germans are not under-estimating ours, either.

Army to the Rescue

If Senator Truman's committee had confined its criticism to the relegation of old-type airplanes to Alaska, referring especially to the Navy, the criticism would not have been so harmful. What he really intended to blast was not the "inferior" U. S. pursuits, but merely the allocation of planes to certain combat areas. In Alaska the Army came to the rescue of the Navy in a powerful way, as the stories will some day reveal.

On the other hand, the Army was caught with some old airplanes in the Far East, but when its good planes went into action there was little question of the results.

Difficult as it is to compare airplanes of various nations, there is no reason for thinking that U. S. equipment is behind the parade in any respect. Whatever readjustments have had to be made for certain specific war theatres were to be expected and will remedy the detailed defects.

Discouraging Outlook

(Continued from page 1)

Germany cannot be bombed to defeat without airplanes, fuel, manpower, bombs and reserves. It is a job that needs concentrated effort. Yet there is not the necessary inclination in high places to give the airmen their chance to do the job. It is still looked upon with skepticism.

More important, the decisions in war strategy are still being made by non-air officers. There is not a single airman on the Navy General Board. Airmen in the Army must "keep in line" or be hushed up on official orders and "sent to Siberia." Airmen have freedom of action only when they are in the combat zone where the fighting has to be done. And then they must use only the tools that they have at hand. They still do not have control of their supplies at the source.

The days of Billy Mitchell are still with us as strongly as ever, with three exceptions. First, the public itself is rapidly becoming sold on the decisive importance of airpower and thinks that airmen have more to say than they actually do. Second, airmen are at the helm in certain combat areas and have full understanding of what can be done if the green light is given. Third, we are in a real war where actual demonstrations are being made day in and day out, whereas Billy Mitchell had to fight against peace-time prejudice and lethargy.

Discouraging feature is the answer ground-trained military men give to statements by Air Marshal Harris and General Eaker. They say that airpower has not been decisive after three years of war. Such a statement reveals the complete lack of comprehension of airpower. The German attempt to bomb England out of existence was a futile, ill-prepared endeavor with inadequate airplanes; Germany never expected to have to engage in that type of offensive warfare. The British have only this year been able to amass a sufficient force of heavy bombers to start the destructive raids which no nation can stand up under for long. The United States is just barely started.

There is a second front awaiting the Allies in Europe. It is England, an excellent base for all-out bombing of Germany. The *real second front is the air ocean* which has no artillery, pill-boxes, fortifications, electrified wire barriers, tanks, trenches and other examples of land war. Such a front can be utilized effectively and at far less cost than a land front.

The real targets in this war are Germany and Japan. An octopus cannot be killed by snipping at its tentacles. It can be killed at its heart. The airplane is the only method of hitting the hearts of the two big Axis enemy powers. But this means concentration of airpower, first against Germany and then against Japan. It means intelligent leadership that understands what kind of a war we're fighting. *Real* airpower has not yet been tried. The samples look good. There is every reason to believe the real thing will do the job and do it expeditiously.

But in Washington today airpower is being shoved aside. It is only a nuisance value to the tank and battleship "experts" who still hold the reins and who still think in terms of wars gone by. Airmen are being muzzled as in days of old. They are being "kept in their places," whatever that means. So despite the fine plans of the bomber commands, the outlook is not bright because airpower has not yet dawned in Washington where the decisions are made.

Those who make the decisions in this war carry a tremendous responsibility and burden. Let no man be found wanting before the judgment seat of history; he who discounts the effectiveness of airpower runs a horrible risk.

W. W. P.

Aero Chamber

(Continued from page 6)

equipped, has a 2,000 h.p. Pratt and Whitney, an 18-cylinder, aircooled engine and a four-blade propeller. No foreign pursuit ship in service has an engine anywhere near this horsepower, although there is at least one experimental type under development abroad. Although less than 33 feet long and measuring 41 feet between wing tips, it weighs nearly seven tons, and is loaded with extremely heavy fire power. It is capable of first class performance at the highest altitudes.



Vought-Sikorsky F4U
"A Terror to the Enemy"

"The Navy also has a new fighter of great horsepower which is now in production. It is the Vought-Sikorsky F4U Corsair with the 2,000 h.p. Pratt and Whitney engine. The Corsair is designed for takeoff from carrier decks. This is one of the fastest planes ever designed anywhere. Its ability to operate from surface ships and speed up to the highest altitudes with heavy armament will make it a terror to the enemy wherever encountered."

Wilson Honored

The William J. Gough Memorial Trophy, for the most outstanding individual achievement in aviation during the year, will be presented to Gill Robb Wilson, aviation director of New Jersey and President of the National Aeronautics Association. Mr. Wilson, who was a flyer during the World War, helped found the National Civilian Pilot Training Program and was the first executive officer of the Civil Air Patrol. Jacqueline Cochran, who is now training the Army's women ferry pilots, received the honor last year for setting a world's speed record of 333 miles an hour.

Parrish to Speak

Wayne W. Parrish, editor and publisher of *AMERICAN AVIATION*, will address the annual banquet of the Junior Traffic Club of Chicago at the Palmer House, Chicago, on Oct. 8.

List of Air Books

Division of Aeronautics, Library of Congress, Washington, announces it has available a 13 page mimeographed list of elementary aeronautical books. Free of charge, the list has titles ranging from subjects in aerodynamics to parachutes.

IN THE DAILY**Kaiser Joins Up:**

American Aviation Daily now comes to Henry J. Kaiser, as it must to all men with an important stake in aviation. The western builder learned about the *Daily* while in Washington for his first tussle with the government. He ordered a month's subscription immediately upon returning to California. He has already renewed—for three months. He has the *Daily* habit!

The dynamic newcomer to aviation gave the *Daily* several interviews in the two months he sought a government order. One of these was by long distance from Oakland. But not being familiar with its comprehensive reporting he registered an early complaint about one story which not only recorded his own viewpoints at that time very accurately, but also summarized the prevailing feeling of some high Washington officials on his project, which ran counter to Mr. Kaiser's ideas. He showed understanding, however, when the *Daily's* policy was explained—that of giving its readers the benefit of its staff's investigation, without favoritism, and letting the readers make up their own minds. This was something new in daily journalism for Mr. Kaiser.

In joining the *Daily* readership Mr. Kaiser is following the lead of the biggest men in aviation, most of whom have been *Daily* subscribers since our first issues in January, 1939. These include Victor Emanuel, Grover Loening, William Burden, Major Seversky, Tom Beck, Sam Pryor, Leland Hayward, Major Al Williams, Col. John Jouett, and the active heads of every major aircraft manufacturing and airline company in America.

The nation's leading aviation associations are subscribers, too.

The President of one of these important groups, David L. Behncke, of ALPA, took occasion Sept. 17 to write an unsolicited letter of tribute. Said he: "While I am writing I would like to say I think the *American Aviation Daily* is an excellent source of up-to-the-minute information about aviation and other national happenings. I have found it very helpful in keeping up with the general trend of events."

Only a few days earlier, the president of one of the country's airlines had expressed a similar sentiment, also unsolicited, in a letter asking that the *Daily* again be sent to him at his midwest office. Wrote well known Tom Braniff: "I feel very grateful to you for your thoughtfulness in forwarding to me in the East copies of the *Daily*. I feel lost without the information concerning the industry in which I am engaged and which is contained in this newsy little publication."

For samples, write *American Aviation Daily*, American Building, Washington, D. C.—R. H. W.

Women's Auxiliary Ferrying Squadron Organized by ATC

The Women's Auxiliary Ferrying Squadron, an experimental unit of women pilots for ferrying operations, is being established by the Air Forces' Air Transport Command.

Mrs. Nancy Harkness Love, wife of Lt. Col. Robert M. Love, ATC's deputy chief of staff, will command WAFS.

Also announced by the War Dept. was the appointment of Miss Jacqueline Cochran as Director of Women's Flying Training within the Air Forces.

Under Miss Cochran, women will be trained in cross-country flying, using all navigational aids, to qualify as operating personnel for Mrs. Love's and such other units as may require it.

WAFS, under tentative plans, will



Miss Cochran

Mrs. Love

consist initially of about 50 women, all of whom will be on a Civil Service status. About 40 of these will be active pilots and the others assigned to administrative duties.

The women pilots, initially, will be limited to flying smaller aircraft, such as trainers and liaison planes, within the U. S.

Qualifications for the women pilots will be substantially the same as those for male civilian pilots now employed on Civil Service status by ATC. Minimum requirements include:

1. Age limits between 21 and 35, inclusive.

2. High school education.
3. Commercial license with 200 hp. rating.
4. Not less than 500 hrs. logged and certified flying time.
5. American citizenship.
6. Cross-country flying experience.

The applicant must pass a thorough flight check in an Army plane of the trainer type.

The women pilots will receive a special course of instruction, lasting from a month to six weeks, to acquaint them with the operation of military aircraft, military organization and procedure, routes and other related subjects.

It is planned to take the women pilots into the ATC in groups of 10 to 15. Applications may be made by letter to the Air Transport Command, Army Air Forces, War Dept., Washington, D. C.

While on Civil Service status, the women will be paid \$3,000 yearly. At the expiration of a 90-day service period, the candidates meeting the requirements will be eligible for permanent appointment into WAFS.

Miss Cochran, in private life Mrs. Floyd B. Odium, will be in charge of a program designed to create a pool of trained women pilots from which will be drawn, as needed, personnel for non-combat flying purposes, to release as many men pilots as possible for combat and other important duties.

Details of the program, including the location of special airports in various sections of the country where the program will be carried on, will be announced later.

Miss Cochran returned recently from England, where she took a group of American women pilots for service with the British Air Transport Auxiliary in ferrying operational equipment.

Mrs. Love received her commercial license in 1933 and now has

Connolly Office Dissolved

The Office of the Military Director of Civil Aviation, Brig. Gen. Donald Connolly, has been dissolved by the War Department, and the duties absorbed by the Air Transport Command. Gen. Connolly will be assigned to a new post shortly, it is understood.

logged more than 1,200 hrs. of flying time. She has a 600 hp. instrument rating and a seaplane rating.

In 1935, she was engaged by the Bureau of Air Commerce as one of a group of flyers to air mark all principal U. S. cities. In 1937 she demonstrated and tested safety planes.

Mrs. Love was one of the original group of pilots who flew aircraft consigned to Britain to the Canadian border, whence they were towed across the border to comply with the Neutrality Act. As an employee of an aircraft sales and charter agency in Boston, she delivered new planes to purchasers throughout New England.

In March of this year she began a study of the problems encountered in ferrying military aircraft.

According to the Civil Aeronautics Administration, there are 24 women holding commercial pilot licenses in the U. S.

P-47, Spitfire May Smash Zero, Congressman Says

The Republic P-47 and the RAF's Spitfire are probably the best challengers to the Jap Zero fighters, according to Rep. Eugene Worley, just returned to Washington from the Pacific war theater where he was on active duty with the Navy.

The Congressman admits, however, that this is mere speculation since neither the P-47 nor the Spitfire has been reported in combat with the Japanese fighter.

That they may meet soon, however, is indicated in Washington, since Spittires will be on their way to the Southwest Pacific soon.

The Congressman told AMERICAN AVIATION that the Zero has more speed, more maneuverability and can climb higher in less time than any fighter our Army or Navy possesses. But he hazarded the guess that more Zeros have been shot down by Flying Fortresses than by fighters.

"The B-17 is the best ship in the world, I think, but some of the boys down there say the B-24 and B-24s are even better." He praised the toughness of American aircraft.

According to Mr. Worley, the pilots like the protection offered by U. S. planes, such as self sealing tanks and armor, but they also want as much speed and maneuverability as possible. They want to look down at the Japs, he said, not up at them.



British WRENS: The vital part being played by women in Britain's war effort is illustrated by this photo, showing two WRENS whose job it is to test radio sets in naval aircraft while the planes are in flight.

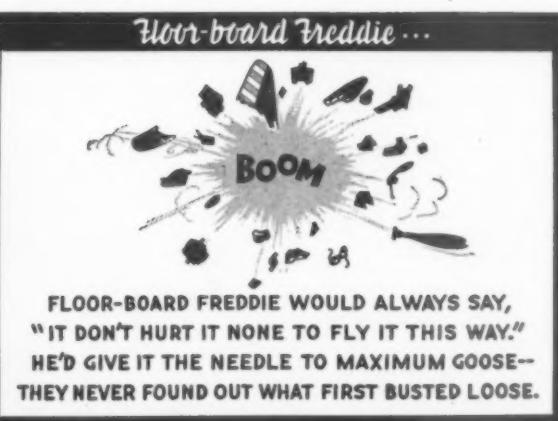


Liberty Ship—World War 2

WEIGHING only a little less than a whole squadron of fighters, the Consolidated Coronado (PB2Y), is a Liberty Ship in every sense.

Whether convoying troopers and supplies, patrolling vast reaches of ocean, or bringing her tremendous fighting power to bear on the enemy, the Coronado is a magnificent weapon in Democracy's fight for decency.

These flying task forces, biggest planes in service with the U.S. Navy, are being turned out by Consolidated's thousands and thousands of workers . . . men and women who are building and buying them for Uncle Sam because they believe in Liberty. *Consolidated Aircraft Corporation, San Diego, California. Member, Aircraft War Production Council, Inc.*



Reproduced in the interest of safety, by permission of the Army Air Corps.

CONSOLIDATED* builds Battleships of the Air

*Originator of the LIBERATOR . . . CATALINA . . . CORONADO

W A R

Auto Firms Report On Aviation Business

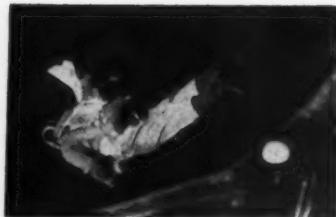
Seven automotive firms are now building aircraft engines "in volume"; two others are making ready to build them; nine are making fuselage subassemblies, such as wings, nacelles, center sections and tail pieces; four make propellers, and five other companies have contracts to make various kinds of aircraft, of which two will soon finish tooling, according to figures released in the September issue of *Automotive War Production*, publication of Detroit's Automotive Council for War Production.

Pointing up the \$36 million gain of the industry's production in August over July, the paper selects some of this gain as equal, in part, to: plus 50 sets of bomber subassemblies; plus 100 aircraft engines; plus 100 anti-aircraft canon, and plus 100 aircraft cannon.

Incorporations

California—Airborne Transport, Inc., to build gliders and sailplanes for towing, in Los Angeles county, files in Sacramento. 25,000 shares at \$1. Directors: William Hawley Bowles, Albert Cris and Isidore Lindenbaum, Los Angeles.

Delaware—Cargo Air Corp. of America, principal office, Corporation Trust Co., airplanes, dirigibles, aircraft of all kinds. 10,000 shares, n.p.v. Incorporators: R. F. Lewis, W. T. Cunningham and Everett Mayo, Wilmington.



He Packed It: This student parachutist at the Lakehurst, N. J., Naval Air Station is taking his final examination by jumping in a 'chute which he packed himself (if it doesn't open, he flunks!) However, the pilot 'chute is starting to open, so it looks like happy landings ahead).

Interchangeability of Engines Demonstrated

Again demonstrating complete interchangeability of 8,500 parts, two "composite" aircraft engines have passed tests, third of this kind to be given, at United Aircraft Corp.'s Pratt and Whitney division at East Hartford, Conn.

Each engine, half its parts from East Hartford, and half from a Pratt and Whitney engine built by General Motors' Chevrolet division in New York state, was put through the usual paces—first run, breakdown, reassembly in "composite" form, and final run.

Previous tests established interchangeability of Pratt and Whitneys built by Ford and Buick.

Ickes Praises Aviation Gasoline Production

Production of 100 octane aviation gasoline "far beyond what anyone believed even remotely possible a year ago," was revealed by Petroleum Coordinator Harold L. Ickes in a recent address before the Baltimore Advertising Club.

More facilities are being constructed, he said, adding that "The program has been so planned that the little refineries have been brought into the program and so that the taxpayers also save many millions of dollars every year because of the favorable prices negotiated by members of our staff."

Senate Committee Urged to Study Profit Limitation

Army, Navy and Maritime Commission spokesmen urge the Senate Finance Committee to make a careful study of the problem of profit limitation before substituting the renegotiation provision of the Sirs Supplemental Appropriation Act with a percentage ceiling.

The renegotiation provision authorizes the Secretaries of War and Navy and the Chairman of the Maritime Commission to force contract renegotiations whenever excessive profits appear.

The percentage ceiling on profit advocated by Chairman George (D Ga.) and other members of the Senate Finance Committee would place an over-all limitation on the total profits on all war contract over a designated number of years.

It is known that the executive departments of the government prefer the renegotiation method of profit limitation. The flat percentage limitation on profits, however, has strong backing on Capitol Hill.

While the Finance Committee continues its consideration of the problem, Price Adjustment Board officials—executing the renegotiation law—are hopeful that Congressional antagonism to the provision will subside. PAB officials explain the renegotiation, fundamentally, is a pricing problem and that even though the renegotiation law authorizing forced renegotiations was repealed, the work will continue. If departments lose authority to force renegotiations, it is stated, unfavorable publicity through congressional hearings will have to be used as a whip.

Trailer Industry Conversion

Washington officials report that the house trailer industry's conversion to essential war facilities is at a standstill. Several months ago it was announced that the industry would change over to glider production, for example. Glider output, however, is understood to be meeting present demands of the Army and Navy, and no major increase in production over the current rate is anticipated until after the first of the year.

Meanwhile, WPB is split on the question of whether house trailers should continue to be sold to individual workers or whether the government shall buy all available trailers and allocate them for converted housing areas. Further conversion of the industry will probably be held up, consequently.

Douglas Post-War Talk

Donald W. Douglas, president of Douglas Aircraft Co. Inc., is scheduled to discuss post-war prospects of the aircraft industry in a broadcast over Mutual Broadcasting System's 200 stations Oct. 22. The program is one of a weekly series sponsored by the U. S. Chamber of Commerce.

Latest Designs: Rapid expansions in the Army Air Forces brought several new additions to insignias being worn by the personnel. Shown here are the latest designs as released by the War Dept.



Qualifications for Glider Pilot Training

1. Men between the ages of 18 to 35 inclusive, holding a currently effective C. A. A. Airman's Certificate, private grade, or higher. 2. Or, holding a C. A. A. Airman's Certificate, private grade or higher, that has lapsed since January 1, 1941. 3. Or, a certified statement showing completion of 200 or more glider flights. 4. Or, if you are a former aviation cadet or aviation student, who has completed at least 50 hours of total flying time, either dual or solo, at any Army, Navy, or other service flying school. *Get in touch with your nearest recruiting office.*



LUMARITH Glides with the Winged Commandos

America's Winged Commandos are on their way . . . training in undisclosed numbers to fly in fleets of swift gliders . . . spearheads of lightning invasions. And many of these new knights of the air will first sight enemy territory through their glider windows of transparent Aero-Quality Lumarith.

More transparent than glass . . . extremely light in weight . . . this super-tough and shatter-proof plastic answers military requirements for aircraft. Its impact strength, at all tem-

peratures, is outstanding among plastics.

Aero-Quality Lumarith is impervious to water and has excellent weathering qualities. It resists crazing. It speeds production because it is easy to form—simple curves can be formed without heat.

Celanese Celluloid Corporation, 180 Madison Ave., New York City, a division of Celanese Corporation of America Sole Producer of Celluloid* (cellulose nitrate plastics, film base and dopes) . . . Lumarith* (cellulose acetate plastics, film base, insulating, laminating and transparent packaging material and dopes) . . . Lumarith* E. C. (ethylcellulose molding materials) . . . *Trademarks Reg. U. S. Pat. Off. Branch Offices: Dayton, Chicago, St. Louis, Detroit, San Francisco, Los Angeles, Washington, D. C., Leominster, Montreal, Toronto.

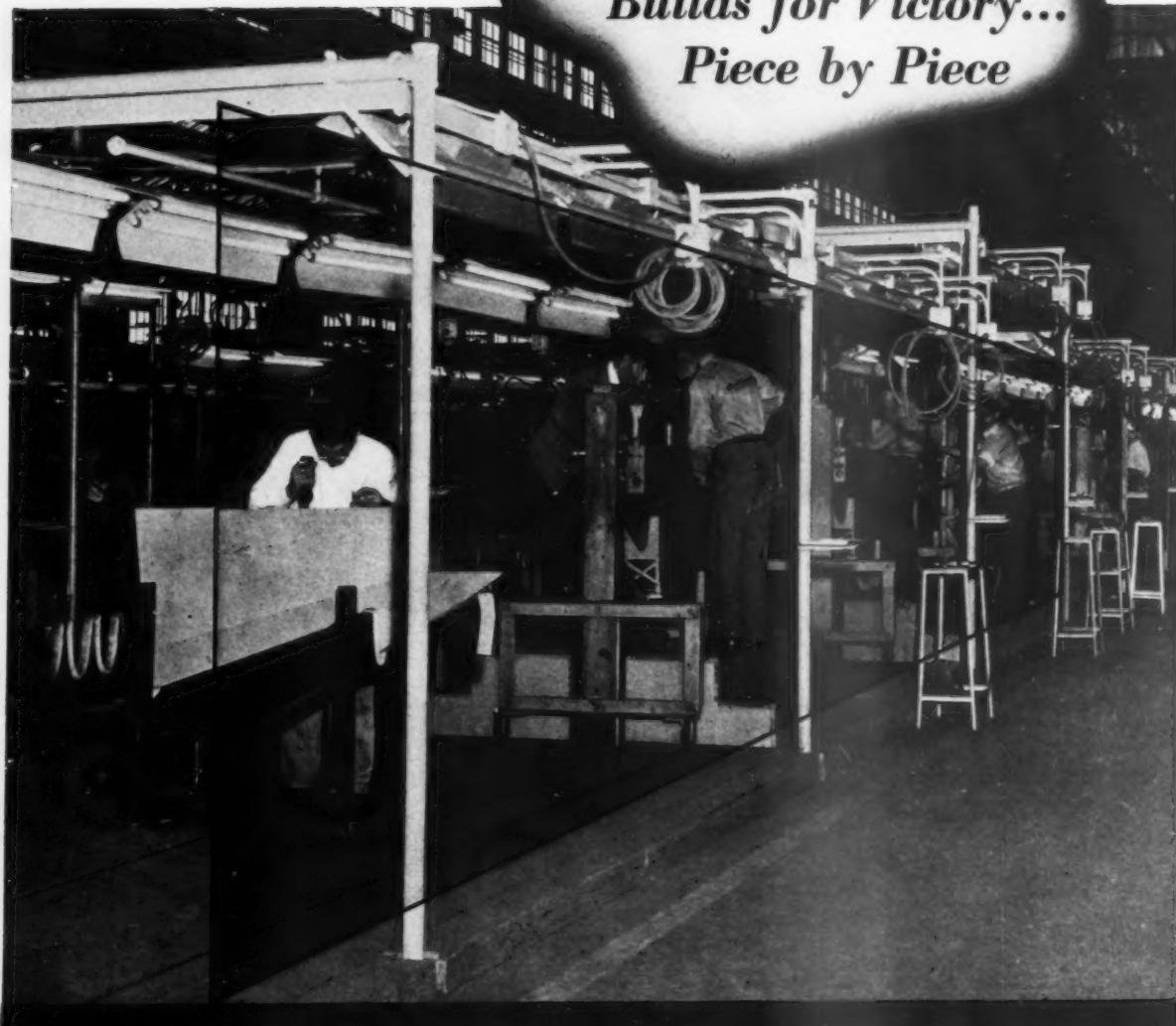
CELANESE CELLULOID CORPORATION

The First Name in Plastics



FLEETWINGS →

*Builds for Victory...
Piece by Piece*



ALONG the speeding assembly lines at Fleetwings' "attack plants" you can see the answer to the challenge flung at America—see the formation of still more of those giant air-raids that are going to put the final crimp in the Axis.

Hour by hour, finished parts for America's growing air fleet pour forth in an unending stream: fins, wings, stabilizers, flaps, ailerons, rudders, fuselage

sections, tail surfaces, etc., etc.

From the hydraulics division come ever-increasing quantities of those efficient Fleetwings-designed valves and jacks to control landing gear, wing flaps, gun turrets, automatic pilots.

Piece by piece Fleetwings builds for Victory.

And after Victory? Plans for that are progressing, too. You can be sure that the streamlined techniques, the new manufactur-

ing methods, the new tools developed by Fleetwings are going to play a part in America's sky-written history.

But that's still in the future. For now, it's our first job to keep things moving, to see that today's job was done yesterday.

★
FLEETWINGS →
Incorporated
BRISTOL • PENNSYLVANIA



The BT-12, all-welded basic trainer built for the U. S. Army Air Forces.

INTO THE BLUE SKY YONDER—That's the destination of this plane—the Fleetwings BT-12. Designed and built by Fleetwings, this trainer is the world's first all-welded military plane constructed principally of stainless steel. With it the U. S. Army is turning fledgling "dodos" into fighting birdmen.

AMONG THE NEW DEVELOPMENTS—announced by the Fleetwings Hydraulics Division, is a new gun turret valve which combines both lateral and elevating controls in one unit—provides a means of operating a machine-gun turret at a variable speed and lets gunners maintain continued fire on moving targets.

IN TRAINING—To the Fleetwings Vocational School goes much of the credit for the specially trained personnel that's doing so much to maintain Fleetwings' enviable ahead-of-production schedules. To date, more than 1000 men and women have been graduated from its classes and have joined the other workers on Fleetwings' production lines.

NEW FLAG—Fleetwings' members are hailing the new "Minute Man" flag awarded us by the Treasury Department. At Fleetwings, we make an active slogan of—

"KEEP 'EM FLYING!"



BRISTOL

• PENNSYLVANIA

More Women to be Used by CAP, Johnson Says

Women are going to be used in more fields and in greater numbers by Civil Air Patrol as more men enter the armed forces, according to Major Earle Johnson, commanding officer of the 58,500 members.

Major Johnson has great faith in women as flyers because he maintains they work harder than the majority of men. If he had 100 men and 100 hundred women pilots each with 100 hours flying time he feels he would find more good pilots among the women. "They like to get their money's worth" and therefore apply themselves more diligently.

Civil Air Patrol has around 5,000 women members doing courier service, search light missions, plotting board operations, observations, stenography, first aid and various class instructions. Many of these women have no practical flying experience, but their services are invaluable to CAP. Of the estimated 3,500 women pilots in the United States, the CAP claims approximately 2,500. Officers Squadrons are made up without regard to whether the flyer is a man or woman—only with regard to excellence in flying. "I am very happy to think women are taking an interest and entering into making the volunteer army a success. All the men in CAP are happy to have them on an equal basis," Major Johnson said.

More important missions are being assigned to CAP all the time. At present, Patrol pilots fly 4,000 miles a day in the southwest on courier missions for the Army. The Army and Navy inform the CAP what jobs they want done to release trained service men to active duty.

One of the most important duties of the Patrol to date has been their Coastal Patrol Service. Re-

ferring to this as the only field in which women do not participate Commander Johnson says: "Up to the present time it hasn't been necessary to use women flyers on the more dangerous missions . . . however, when the time comes that men for the jobs are not available, I know the women will be just as competent and just as willing to take over."

Recently it was decided to use only planes of 90 horsepower or, more for this duty and release the smaller planes for inland missions, many of which are already being flown by women. Major Johnson explained that on what they term "dangerous missions," such as Coastal Patrol, accidents are apt to occur and at such times mixed crews do not alleviate the difficulties.

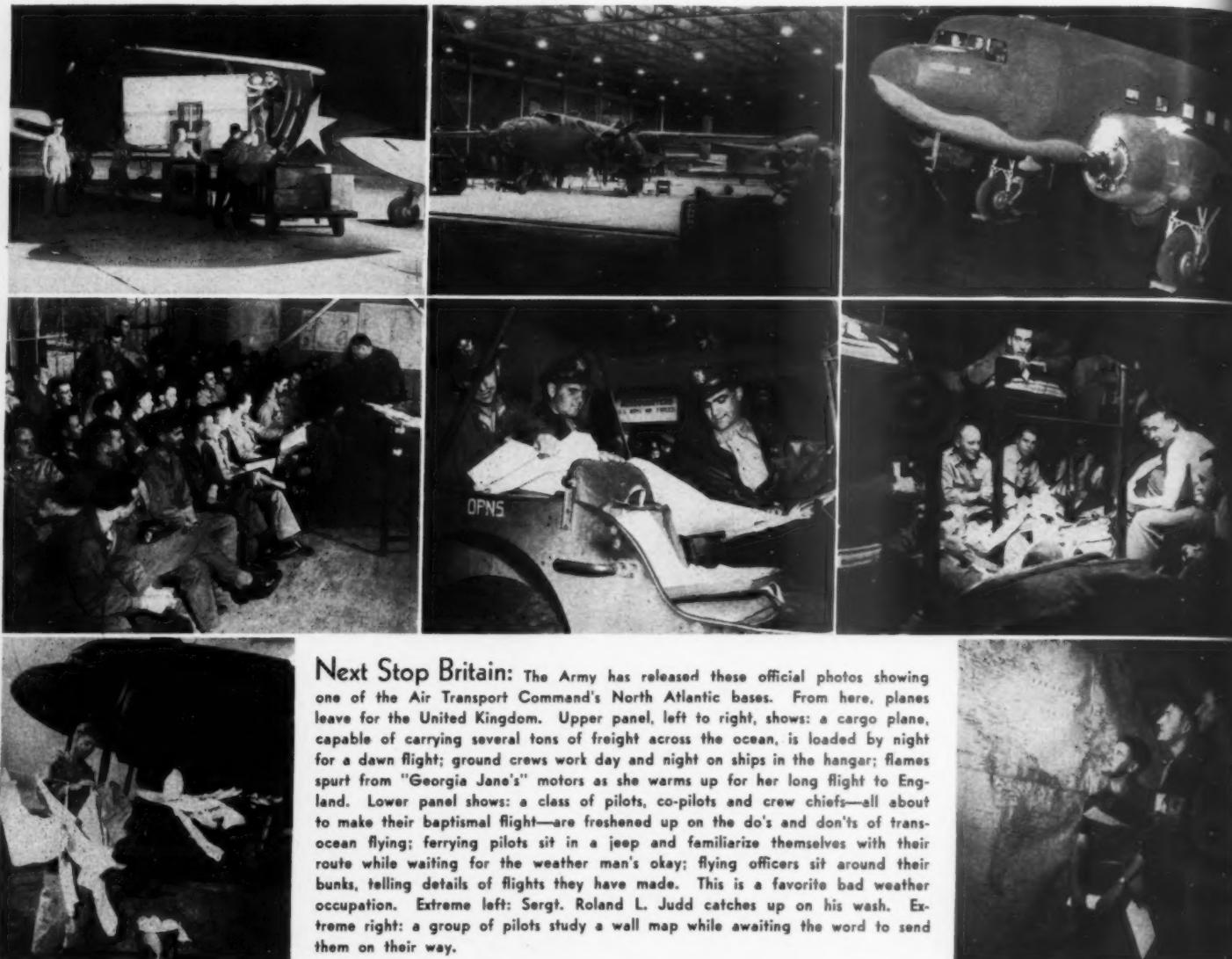
The CAP bulletin stated: "The status of the Patrol may be judged by the fact that you are permitted, as a member, to wear the uniform of the Army. This is a privilege granted to no other organization." Patrol members wear the insignia of Army rank with the red CAP shoulder loop to indicate their status. They also wear the Air Corps wing and propeller emblem in silver. A Patrol pilot may join the Air Corps Reserve in an inactive status.

Referring to his high praise of the women members of the organization, Major Johnson said the men members might become jealous, but he confidentially believed the women deserved every word of praise he could give them because of their active interest in this vital war work. Every night in some city during some practice black-out there are women CAP pilots flying the skies helping the wardens in their training of civilians.



Gliders for Army: Photo above shows women working in the rib and wing assembly section of the Laister-Kauffmann plant, which is building Army gliders. A large part of the construction work at the plant is handled by women.

An ATC North Atlantic Base



Next Stop Britain: The Army has released these official photos showing one of the Air Transport Command's North Atlantic bases. From here, planes leave for the United Kingdom. Upper panel, left to right, shows: a cargo plane, capable of carrying several tons of freight across the ocean, is loaded by night for a dawn flight; ground crews work day and night on ships in the hangar; flames spurt from "Georgia Jane's" motors as she warms up for her long flight to England. Lower panel shows: a class of pilots, co-pilots and crew chiefs—all about to make their baptismal flight—are freshened up on the do's and don'ts of trans-ocean flying; ferrying pilots sit in a jeep and familiarize themselves with their route while waiting for the weather man's okay; flying officers sit around their bunks, telling details of flights they have made. This is a favorite bad weather occupation. Extreme left: Sgt. Roland L. Judd catches up on his wash. Extreme right: a group of pilots study a wall map while awaiting the word to send them on their way.

Germans Produce Gliders, Lightplane

Large scale glider production, and completion of a light, powered aircraft, fitted with floats, are reported from Germany in the *Foreign Commerce Weekly*, official publication of the U. S. Department of Commerce.

One type of glider is believed to have an 80 foot span, 800 sq. feet wing area, and 3,000 lbs. weight empty, with disposable load of about 5,000 lbs. Another larger type, to be towed by Focke-Wulf Kuriers, is thought to be under construction.

A light plane, La 11W, driven by a Mercedes 23-hp. engine, which can be fitted with floats, has been built by students of an engineering college in Stettin. With a range of 218 miles, a speed of 68 miles per hour, and a climb of 3,500 feet in 15 minutes, the little aircraft is understood to have V-shaped wing struts of

Naval Air Appropriation

The President has requested Congress for an additional 2 billion dollar Naval appropriation, of which \$960,000,000 is for the Bureau of Aeronautics. No details were furnished.

La Farge With ATC

Oliver La Farge, author of the Pulitzer Prize novel "Laughing Boy", has arrived in Washington to be a special consultant to the public relations section, Army Air Transport Command. Mr. La Farge will fly the air transport routes and submit written descriptions of his experiences.

steel tubing, covered with plywood, and to have a plywood covered wood fuselage.

New California Glider Firm

Latest example of conversion to the aircraft industry is that of California Divan Co., Los Angeles, which has been renamed California Aero Glider Co. Volmer Jensen, well known glider pilot, and formerly with Boeing, Consolidated, Northrop and Douglas, has joined the executive staff.

Runway Soil Data Issued

Texas Highway Department's Research Division has published a report on "Roadway & Runway Soil Mechanics Data," carried in the latest issue of the Bulletin of the Agricultural & Mechanical College of Texas, dated June 1 but just issued. Orders for copies should be sent to Texas Engineering Station, A & M College, College Station, Tex.

Civil Briefs

CAA-Latin American Trainees: CAA already has 200 Latin American pilot trainees who are expected to complete their courses by Oct. 15; 75 airplane service mechanics have completed scheduled courses. Fifty of those finishing the pilot course will receive eight weeks' additional training in instrument flying, and most of the mechanics have agreed to six weeks' further work in specialties such as aircraft, engines, accessories, instruments, radio and drafting.

Wind Damage Precautions: Aero Insurance Underwriters, New York, N. Y. advise the necessity of keeping a close watch on aircraft moored out of doors by ropes and stakes, to see that they haven't been loosened. They report accidents due to wind have "increased alarmingly" to airplanes moved out of defense areas because of restrictions in coastal zones.

**NEITHER HEAT
NOR COLD...** stays a Curtiss Electric Propeller
from instant response to its controls.

CURTISS

ELECTRIC PROPELLERS



Dust be the Enemy...

CONTACT!—turn into the wind—and away goes the first silver squadron. Up into the bowl of the sky, wing-tip to wing-tip—up and away, almost as one 'plane, swift into the eastern sky till they seem but glistening pin-heads stuck in an azure band. Below on the sun-grilled earth great billowing clouds of dust float slowly across the airfield

Dust—just dust. But a powerful and dangerous enemy. Our only weapon is filtration, and if full



FILTERS OF THIS TYPE
ARE AVAILABLE FOR EASY
FITMENT TO EXISTING
AIRCRAFT

efficiency is to be maintained, if breakdowns are to be avoided and engine-life prolonged—then that filtration must be **perfect**.

To-day, such filtration is no longer just an idea. Long months of research in the VOKES laboratories have made it an actual, proven fact. These VOKES filters, both for air and for high and low-pressure oil

systems, are designed **on an entirely different principle of filtration**. Their efficiency—tested and proved under the strictest conditions—is 99.9% (filtration down to particles 0.00004 in. diameter.) This indeed is perfection. Human endeavour can go no further. Here at last is a guarantee of constant air and oil-purity no matter the conditions of service.

We shall be glad to answer all enquiries and arrange practical demonstrations through our agents.

VOKES
VOKES LIMITED FILTRATION EXPERTS

American and Canadian Agent:
E. Cantin, 101 Park Av., New York

Bombing of Germany Urged as Key to Victory; Lack of Policy Hit

Airpower Still Not Recognized, Editor Says at KC

ASSERTING that airpower has still not received the green light in Washington, and that the military thinking is along lines of 1917 instead of 1942, Wayne W. Parrish, editor and publisher of *AMERICAN AVIATION*, urged the immediate concentration of effort on the bombing of Nazi Germany as the most expeditious means of bringing the war to a close.

He spoke before the first fall luncheon meeting of the Kansas City (Mo.) Chamber of Commerce at the Hotel Muehlebach on Sept. 9. Members of aviation organizations in the city, and personnel from Kansas City aviation plants, attended the luncheon.

"The tragic part of the air development of the United States up to the present is how completely we have lagged behind in understanding what the airplane is all about," he said. "One of the great shameful episodes in American history was our state of unpreparedness on Dec. 7."

Treated as Auxiliary

"Through some sort of perverted twisted reasoning too many of our national leaders have treated the airplane as though it were just an auxiliary of war, whereas if this country had been alert to what the airplane is doing, it would have sponsored and encouraged aviation development during the past ten years."

"The shackling, the restricting and the hamstringing of aviation in all of its many forms from private flying to the military has been one of the saddest chapters in our great history. How many lives of Americans could have been saved by a mere two hundred planes at the Philippines, for example. The strongest indictment of Washington for its utter neglect and lack of understanding of airpower would not be too severe."

"It is fine to talk of building a hundred thousand airplanes in 1943, but when this nation needed a few score or a few hundred in 1941 we were found wanting."

"Today we are getting airpower, but you can mark it down as an absolute fact that the only reason we are progressing is because the American aircraft industry has had the courage to stick it out against almost insurmountable odds during the last decade. Our aircraft in-

dustry has been ready, anxious and willing to expand for years."

The speaker reviewed the long fight to obtain priorities for material for military aircraft on a par with tanks and battleships and referred to the industry's inability to work at capacity because of bad allocation of critical materials.

"Even in the conduct of the war we seem confused about what we're going to do to lick the enemy. This is an air war, a war of movement and speedy transportation, and airpower can bring the war to a close. But to carry on an air war you must have airplanes, and until recently there was no disposition on the part of the tank generals and the battleship admirals to put airplanes on the top priority lists.

Germany is Key

"In my opinion the key to the war is Nazi Germany and the one way to put Germany out of the war expeditiously is by means of bombing. There have been many critics, as there are always skeptics in anything new, who do not believe airpower can be decisive. But it can be. It can be done by knocking out Germany's industrial, power and transportation centers, and it wouldn't take long to do the job providing we concentrated on it."

"But we can't do the job when the guiding geniuses of the war still think in terms of 1917 and 1918 and when we dilute our energies all over the globe. Airpower provides the second front in Europe if we but take it. Once Germany itself is knocked out, the remainder of the global war can be taken care of in due course and without tremendous expenditures and needless cost of American lives."

Doomed to Failure

"Remember that there is a vast difference between the kind of an air war Germany endeavored to wage over England and the kind of air war Britain and ourselves are starting over Germany. Germany never prepared for this type of airpower but she'll catch up unless we deliver some knockout blows. Germany has used her airpower as an auxiliary to her ground blitz and in this she was highly successful. She also expected to knock out the airpower of England by her excellent fighting planes. But she didn't quite make the grade and her failure to knock out England's small but invincible airpower when she had the chance, doomed Germany to failure in this war."

"If Germany had obtained air superiority over England, this war might have had a sorry ending. Germany's attempts to bomb England out of existence also failed because she was not prepared for this type of offensive."

"To bomb the industrial centers of another nation you must have a large fleet of heavy bombers with heavy bomb-carrying capacities. Germany did not have enough of this type of plane. Although she caused much destruction in England, it was not of the knockout type. There is a vast difference between a 100 and a 500 pound bomb, and the 2,000 and 4,000 pound bombs being rained on Germany today. One is destructive, of course, but the larger ones are crippling and it is the crippling of industrial centers by knocking out whole areas of factories, houses, power and other utilities, plus transportation, that stops the war effort."

"If England and the United States can carry the Cologne type of raid to thirty or forty other cities in Germany, the Nazis will be on their way out. But such attacks must be consistent and in rapid order."

"Of what gain is a great victory in Russia to the Germans, if her rear is being blasted to destruction and her supply lines cut off?"

Defends Planes

The speaker defended American military airplanes, saying that criticism in England has been unfair and based on misinformation and false premises. He described the development of the Flying Fortress and told how the new Model B-17F will have a bomb-carrying capacity greater than that of any English bomber. On the matter of fighters he said "when the final stories are told our fighting planes will not be found wanting."

It all takes time, he said, "but we would have been far better off had we begun to prepare for the air age in Washington. We didn't even have assistant secretaries of war and navy for air until two years ago. Even today these secretaries are hamstrung by men who know very little about airpower. Our Army Air Forces is expanding by leaps and bounds, but it is numerical growth only, because the men who make the decisions for materiel are still 100% men from non-air services."

"In the Navy the airmen are given a free hand in combat, but in the general councils in Washington there is not a single airman who sits at the table where the decisions are made. The pilots who are doing the jobs around the world are made heroes on the front pages of the newspapers, but we do not yet have airmen directing the war or even having anything to say in the inner councils."

"Perhaps the biggest overall failure of the United States to mature in this air age is the utter lack of national air policy. The war is forcing aviation development, but

24 Times

WPB Chief Nelson recently told Congressmen that: "In 1939 the aircraft industry had 49,000 workers. (It) expanded to 640,000 in 1942, and . . . will go up to 1,200,000 in 1943, a multiplication of 24 times." The value of production, Nelson said, will go up from \$280,000,000 to \$21,000,000,000 in 1943.

this progress has been done in the face of stark reality and because the house is on fire instead of by any intelligent and rational planning based on real understanding. There are still no great directing aviation voices in the capital. Aviation is still a sideshow responsible to skeptics."

Discussing air transportation, the speaker assailed the Civil Aeronautics Board for its negative attitude and action on expansion at a time when expansion was possible, and described the coming movements of air cargo in all parts of the world. He pictured Kansas City as being on important world trade routes of the air, accessible as a port on the air ocean to every other community in the world.

Official Name

Airlines War Training Institute is the official name of the airlines' organization administering the training program to carry out the companies' contracts with the Air Transport Command. New offices have been opened at 1616 K. St. NW, Washington, D. C. Samuel J. Solomon, president of Northeast Airlines, is director of AWTI.

New Publication

A mimeographed publication, No. 1391, on *Radial Streak (red) and Giant Resin Ducts in Spruce*, by Eloise Gerry, Senior Microscopist, has been issued by the U. S. Dept. of Agriculture, Forest Service, Forest Products Laboratory, at Madison, Wisconsin.



Awards Wings: Maj. Gen. Harold L. George, Commanding General, Air Transport Command, congratulates William H. Smith, honor student, after pinning on his wings at graduation ceremonies of 58 junior air transport pilots of Pan American Air Ferries flight training school. John A. Steele, PAAF'S operations manager, looks on.

—WAR—

WPB Summary

PRODUCTION REQUIREMENTS plan now seems to be the assured instrument for learning industry needs, despite continued rumors PRP will be set aside for some new plan. Officials close to Donald M. Nelson indicate he intends to issue a statement on PRP, pointing out refinements and shortcuts which have been worked out since PRP first was launched, and definitely cutting off further rumors that PRP won't work.

INTERIM PROCEDURE for PRP applicants who fail to receive their 4th quarter certificates prior to October first is modified in Amendment No. 4 to Priorities Regulation No. 11. Amendment provides that applicants may not apply preference ratings before receiving certificates to more than 70% of their estimated 4th quarter requirements, and may not apply ratings to a greater volume of material than they actually put into production during July and August of this year. As earlier provided, companies may order up to 40% of their estimated 4th quarter requirements for delivery in October.

APPOINTMENT OF F. Eberstadt, former Army Navy Munitions Board chairman, to vice chairmanship of WPB, has full approval of a majority of WPB aircraft officials. Eberstadt will also be chairman of the important WPB Requirements Committee, and will have full authority for setting up industry schedules and for allocating materials to industry.

NO LABOR official has yet been placed in high responsibility within WPB's inner council, although Donald Nelson some time ago offered appeasement to protesting labor leaders by asking them to nominate men for high WPB posts. Nelson aides say he is quite willing to give responsibility to labor men, provided they work for WPB and the war program and not simply for organized labor.

WPB FIELD OFFICE handling of preference ratings on materials, which has been taken out of the hands of Army and Navy field officers, is not expected to have great effect on the aircraft program. Officials are putting the finishing touches on a plan to have plane priority problems, or minor matters, handled through Air Forces district procurement offices rather than through Wright Field or Washington. A new committee under the Priorities Branch of the Aircraft Production Division will oversee action of the district offices. The committee will have one civilian and one officer each from Army and Navy.

LAPOR-MANAGEMENT committees in the aircraft industry increased 33% from July to August to a total of 92 companies now working throughout the industry. Ordnance industry has 246 such groups, iron and steel 182, shipbuilding 69.

SMALLER WAR PLANTS Corp. says it has now completed internal organization and is ready to start functioning. Many details of how it will function still remain to be clarified.

Propeller Firm Moves

Gardner Propeller Co. has moved to a new location at 215 Harlem Ave., Forest Park, Ill.

War Agencies Review

POSTWAR PLANNING for aviation can hardly be said to have reached the stage where definite, coordinated plans exist. To most people postwar aviation means more than the future of aircraft manufacturing, air transportation, local operations and private flying. To much of the public the continued utilization of war-developed personnel and equipment is closely related to the hope that aviation more than any other industry will be able to pull the country out of an after-the-war slump.

Several months ago in Washington there was quite a burst of interest in starting at once to prepare, through coordinated industry-government action, a sound and sensible postwar policy for aviation. Much of this interest has died away, and is not expected to spring up again until some of the emphasis and energy of aviation people can be allowed freedom to swing from today's problems to the problems of day after tomorrow.

Main reason for the apparent falling off in preparation for the postwar era is that the men who can actually make preparations have been simply too busy preparing for war. Only when the tremendous task of expansion and conversion has levelled off can they be expected to find time to think further into the future.

Some of the most important aviation officials in Washington are intensely concerned with preparing for aviation expansion after the war. Certainly some of the most important people in the industry hold this same concern. However there seems to be a considerable lack of understanding between Washington and the industry as to where the initial responsibility rests. Washington officials are hampered by the fact that there are too many of them, doing too much the same thing. None can safely take initiative until a higher authority authorizes them, or until they have been able to unite the others toward a common purpose.

The industry, on the other hand, seems to feel it should have assurance of a unified Government plan and policy before getting too deeply involved. Most industry officials express a desire for establishment of a single Washington agency to which all their postwar considerations could be taken. Many Washington men agree such an agency is necessary but feel it can only be brought into existence by united action from the industry. They say the industry as such lacks a sparkplug on the postwar issue. They express hope that perhaps after the first of the year some of the more far-sighted executives of the industry will find time to get together and create a common meeting ground from which all parties concerned can start to move in the same direction.

NATIONWIDE GAS RATIONING is an issue which has not altogether been settled at the moment of this writing. Since issuance of the Baruch rubber report and subsequent appointment of William M. Jeffers as national Rubber Director there has been a little-discussed backstage squabble in Washington between Office of Price Administration and Office of Defense Transportation. Each has felt it should have responsibility and authority for the rationing program. Each has made a few stabs at trying to assume such authority. Mr. Jeffers has made it clear to all concerned that he is in full and final charge of the show. Perhaps by the time this is read, he will have delegated authority according to how and where he feels the rationing job can best be handled. But until he has done this there can be no certainty as to when and how the rationing program.

In any event it seems unlikely that drivers west of the Alleghenies will feel any direct effect of rationing plans for many weeks.

MATERIALS FOR THE AIRCRAFT PROGRAM, in proportion to requirements determined through fourth quarter PRP applications, should soon be settled. Currently, WPB aircraft officials are hopeful of being granted a very high percentage of stated requirements for the entire plane program. It is indicated that some of the less important military and civilian industry programs will have to take drastic cuts in materials, with resultant cuts in production schedules.

EFFECTIVE MANPOWER CONTROL still is far from reality. Recently hearings were held before the special House Committee on Defense Migration, at which Paul V. McNutt, Gen. Lewis B. Hershey and other high officials urged legislation for the complete control of labor. They strongly contended that neither Selective Service nor War Manpower Commission can conduct orderly transfer of people from civil life to military service or war work until Congress acts to prevent voluntary and disorderly transfer.

After the hearings Committee members made no direct comment on what would be done, but made numerous indirect references to the effect that the situation did not seem sufficiently serious to demand immediate legislation.

Nevertheless, Washington observers feel manpower will be the next big issue to come before Congress after taxation and inflation are out of the way.

David Shawe

WMC News

A NATIONAL SERVICE act is mentioned elsewhere on this page, being urged of Congressmen. War Manpower Commission Chairman Paul V. McNutt has frankly stated his present powers are inadequate. He has openly urged passage of legislation designed to increase his powers over the transfer, voluntary or otherwise, of the nation's manpower.

Thus far, in spite of McNutt and other high officials, Congress has displayed little inclination to tackle before the last moment such a ticklish topic. Some charge that McNutt is too politically ambitious to be the right man for the job. Few observers feel any blanket administration policy will be stated before elections and for as long thereafter as Congress is able to stall.

MEANWHILE, WMC continues to tackle problems one at a time as they threaten to get out of hand. Powers to arbitrarily order effective actions WMC must either issue orders and hope they will be followed, or maneuver Army and Navy and other Government agencies into taking action. In many cases, WMC has had to be maneuvered by industry in order to get action. The aircraft industry played a big part in getting WMC. The Armed Services and Selective Service together on Army-Navy agreement not to enlist or commission qualified to hold war jobs. Industry officials say this, like other recent moves, somewhat helped the situation but did not altogether stop the rush to get out of their present jobs into a better job or into a uniform.

OPA Briefs

AIRCRAFT PRICE control issue remains unsettled as Leon Henderson continues negotiations with Army and Navy over whether OPA should try to control prices of any strictly military purchases. Thus far not even Henderson's closest associates appear to know which direction the controversy will take. Meanwhile the proposed aircraft price regulation continues to gather dust with officials who spent months drafting it wishing something would happen one way or another.

PLANE MAINTENANCE and other aircraft services are now under price control through amended Maximum Price Regulation No. 165 which covers 6 classes of service trades. Aircraft services are defined: "lubrication, maintenance, painting, rental, repair, storage, washing or other servicing including but not limited to maintenance or repair of accessories or parts."

Application and operation of the regulation is defined in OPA Manual No. 1 available through all OPA regional and state offices, and through local price and rationing boards.

SAE Aircraft Meeting

Society of Automotive Engineers has scheduled a "National Aircraft Production" meeting for Oct. 1-3 at the Hotel Biltmore, Los Angeles, Cal., so that engineers can confer on details of aircraft designs and construction, and talk over engineering requirements for expediting plane production. Cooperating in the meeting are the Aeronautical Chamber of Commerce of America, and the Air Transport Association of America.



RESPONSIVE AS ALADDIN'S GENIE

Airpower will win the war and control the peace. Proud we are therefore to serve United Nations' Air Forces with *ISOdraulic control systems and equipment with which aircraft instantly respond as if by magic to the fingertip instructions of the pilot. Multi-engine control technique simplified thru precise response irrespective of temperature, altitude, vibration or system pressure fluctuations.

Illustrated—ADEL slave unit valve, rival of Aladdin's genie in accurate obedience to the pilot's every wish. Unique, secret part of ADEL *ISOdraulic Control Systems. Tested from -80° F. to $+200^{\circ}$ F. (*T. M. Registered.)

ADEL

BURBANK, CALIFORNIA

Engineering Offices: Dallas, Texas;
Detroit, Mich., Huntington, W. Va.;
Hagerstown, Md.; Toronto, Canada



ARMS FOR THE PRODUCTION ARMY

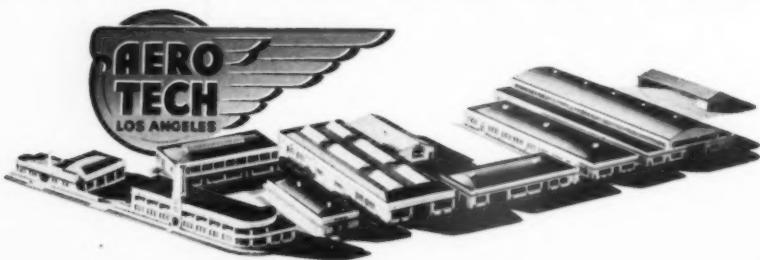
-Aero Tech Is Training Men to Use Them Well

Back of the winged weapons of this war in the air...back of the men who man them... are the men who man the weapons of aircraft design and production. Our victories through air power start with the highly trained engineers and mechanics in the production army. Aero Tech has sent almost 4500 such men into the battle of production... men equipped with broad, practical knowledge of their respective fields of endeavor, and with advance experience in using the tools of their trades. Aero Tech is proud that its long years of building up one of the largest and best equipped aeronautical schools in the world are being rewarded in significant service to our nation in this time of need.

AERO INDUSTRIES TECHNICAL INSTITUTE
5238 WEST SAN FERNANDO ROAD, LOS ANGELES, CALIFORNIA

★
C.A.A. APPROVED for
Aircraft and Engine
Mechanics Training

★
CONTRACTOR TO
U.S. ARMY AIR FORCES
TECHNICAL TRAINING
COMMAND



6 Senators Praise Most U. S. Planes But Blame Army, Navy 'Perfectionists'

Truman Asserts Aviation Policies Poorly Handled'

Highly critical of the policies of the Army and Navy on some aircraft designs, and of the Navy's air operations in the Alaskan area, six Senators led by Sen. Harry S. Truman (D.Mo.), on Sept. 14 discussed the current controversy over the combat planes ordered by the Services. Two-thirds of our plane types, including our bombers, are the best in the world, it was said.

Highlights of the discourse were Truman's advice to the Army to "concentrate on the production of its best planes . . . and give less attention to concocting publicity blurbs," and Sen. Wallgren's accusation that the Navy is sending 120-mph patrol planes out to fight Jap pursuit aircraft.

Truman is chairman of the critical Special Committee to Investigate the National Defense Program, and Wallgren (D.Wash.) is chairman of the aviation subcommittee of Truman's group.

Others who took part were Scott Lucas (D.Ill.), Lister Hill (D.Ala.), Edwin Johnson (D.Cal.), and George Norris (Indep.Neb.).

A digest of the discussion, as carried by the Congressional Record, follows:

'Entitled to Best'

Mr. TRUMAN. Another subject which, like rubber and steel, has not been adequately handled, is aviation. The nation was startled when the committee said last January that most American pursuit planes were inferior to the best British and the best German pursuit planes. I am sorry to say that what was developed subsequently has proved the truth of the committee's position in January. Scarcely a week goes by without some prominent flyer returning to this country and asking why we cannot give the boys better pursuit planes. The committee believes that the Army should follow the committee's January recommendation and concentrate on the production of its best planes, and should give less attention to concocting publicity blurbs intended to emphasize that poor planes are better than none at all, and can do a worthwhile job when used by superior pilots. Our boys have proved their superiority as pilots of inferior planes. They are entitled to the best planes we can give them.

Mr. LUCAS. I have read many statements made by different individuals who have returned from the fighting fronts. I have also read statements which were made by such men as Eddie Rickenbacker, for instance, in which they challenged the accuracy of the charges referred to by the Senator from Missouri. I am wondering what the evidence presented to the committee shows with respect to that. I am not interested in what has been said by some fellow who has come back from across. What I am interested in is the

testimony which was taken before the Senator's committee which he believes demonstrates beyond any question of doubt what he has stated.

Mr. TRUMAN. I will refer the Senator from Illinois to the page of the record where the statement appears and furnish him the names of the persons who gave the testimony.

Mr. LUCAS. It is important to ascertain exactly what the situation is. I am not in any wise challenging the authenticity of the report which has been made by the able Senator, but I know that there are differences of opinion with regard to our fighter planes and various other planes, regarding what they can or cannot do.

Mr. WALLGREN. I will say to the Senator from Illinois that we must consider the planes in three different types—the bombers, pursuit planes, and interceptors. I believe we have the world beaten so far as bombers are concerned, and I entertain the same opinion with respect to interceptors. We talked with a great many men who have been fighting the Japanese and with men who have been fighting on other fronts. They told us that if it were not for their ability to outshoot the enemy they would have been defeated, because they feel that the fighting planes of their opponents can outfly them. These men ask that they be permitted to take the additional guns out of the wings and to do anything that might lighten their fighting planes.

We found that today, at Kiska, in Alaska, the Japs are flying a very competent plane, a Zero fighter equipped with pontoons. That plane is forcing our bomber planes up to an altitude of 20,000 feet, where our bombers are not so effective. The distance between Kiska and our outlying bases is so great that our fighter planes cannot cover it unless they can carry additional gasoline, and we are trying to do that job today, and are doing it now by using additional tanks for gas.

In the main, I think, while our fighters are given better protection in the way of armor, than other nations are giving their fighters, that additional protection does handicap our fighters to the extent that they are not so maneuverable as, for example, the Japanese fighter planes.

Mr. President, our pilots today are asking for a better plane. The Navy is today using a plane in Alaska which, to my mind, is a joke. There is something wrong some place when we send out a naval fighter plane which cannot do better than 120 miles an hour, but that is now being done daily.

One will be told that in Alaska the weather is handicapping our flyers. The

fact of the matter is that by reason of the bad weather conditions our slow planes are able to sneak off in the clouds and get away from the faster Japanese fighter planes.

I think we should furnish our men with better fighting planes. Most of the testimony we obtained was through talking with individual pilots who told us exactly what they need and who asked us, time after time, to try and see if they could not be furnished with better planes.

Mr. LUCAS. I appreciate very much what the Senator from Washington has said. What he has told us with respect to what he found on his trip through Alaska is very enlightening. Obviously, I am not in a position to know how many of the best planes which have been turned out on our assembly lines during the last 6 months the Army or the Navy now have, or how many of the best planes which are being turned out they have; but everyone knows that prior to Pearl Harbor the Army, the Navy, and the Air Corps were very deficient in many types of equipment when compared with the enemy. They did have same planes which traveled 120 miles an hour. I do not know whether they are trying to use them at the present time because of the fact that they may have no others. I do not know anything about that. But, as I understand, the Navy is implementing the shortage of planes which existed prior to Pearl Harbor with almost anything they can pick up. We know that they have been attempting to use every private plane they can get.

Hits 'Brass Hats'

Mr. TRUMAN. Mr. President, I may say to the Senator from Illinois that the attempts on the part of the perfectionists in both the Army and the Navy to reach absolute perfection in the construction of ships, landing boats, and planes, is one of the things that has delayed us. They have not been willing to accept Great Britain's ideas, for instance, with respect to planes, for the simple reason that they think better ones should be made in America for our Navy and our Army. That is one of the reasons for the situation which has now developed. I will say to the Senator from Illinois that the statement which I have just made with respect to our planes was very carefully weighed. Something had to be done to shake up the "brass hats" and get action and obtain the best planes obtainable, even if we have to go to some other country to get them.

Mr. LUCAS. I want the American boys to fly the best planes obtainable. It is difficult for me to understand why

the Army and the Navy do not want the same thing. That is a situation which is difficult for me to understand.

Mr. TRUMAN. I cannot answer the Senator's question. That is exactly what I am charging.

Mr. LUCAS. In other words, as a Senator standing on the Senate floor and not being thoroughly familiar with the subject, but with the full belief that the officials in the Army and the Navy are just as patriotic and just as anxious to win the war as is any Member of the United States Senate, it is difficult for me to understand why they will send two boys out in a plane which can fly only 120 miles an hour to fight against a Zero fighter or some other enemy plane which is much faster.

Mr. TRUMAN. I cannot answer that question.

Mr. LUCAS. I cannot understand that situation.

Mr. TRUMAN. But it has happened.

Mr. LUCAS. Whether the men flying that slow plane were out on patrol or whether they were on fighting duty I do not know. The statement was made by the Senator from Washington (Mr. Wallgren) a moment ago about a fighter plane which was being used in Alaska which can fly only 120 miles an hour. Navy boys were in that plane. Of course, they want a better plane than that. Would it be violating naval secrets if the Senator should tell me what were the duties of these two boys who were flying in such a plane?

Names Planes

Mr. WALLGREN. They were bombing Kiska, and in going over Kiska and bombing it they were met by Japanese Zero fighter planes equipped with pontoons. We do have exceptionally good planes, such as the P-39, the P-40, the Mustang, and the P-38, which are now doing a very good job, but none of them seem to measure up to the fastest planes which England is producing at the present moment. Today we are still manufacturing some planes which are called combat planes which cannot begin to measure up even to the Mustang or the P-40, or the P-39—planes which are being manufactured by us at the present time. Why should we continue to manufacture a plane which is inferior to some of the fighting planes used by our enemies?

Mr. LUCAS. Mr. President, it may be that England has a superior fighting plane. If so, I think we have contributed to that superior quality as a result of lend-lease and other legislative acts encouraging England to move forward with all speed when she was in her real crisis. Giving England the advantage was in defense of America. It was frequently said before Pearl Harbor that the experience of England with fighter planes would ultimately be to our advantage, when we were compelled to produce for our own war effort.

Wants Superiority

I agree with the statement that American ingenuity is such that we ought to have the best, or something better than any other country in the world; but I am a little disturbed about the report made with respect to our planes. I simply cannot comprehend why any official in the Navy or the Army should want to have anything which is inferior to what any other country has. I do not believe it. I cannot understand why any such official would do anything which would stand in the way of our producing a superior plane, or one which is at least equal to what is being produced in other countries.

Mr. President, I simply rose to ask the question primarily upon the plane situation, because I have seen the statement in the press that we have inferior planes. Yet the other day I read in the press a statement made by Captain Rickenbacker, who ought to know, in which

(Turn to page 32)



Battleship Based Craft: New Curtiss-Wright Seagull, scout-observation craft, has long cruising range, can carry light bombs for sub fighting, and is fastest aircraft yet based on cruisers or battleships. It can be launched by catapult or on its wheel gear from coast shore bases. Rough water test is pictured. (Navy Photo).

American Aviation



Established 1937

The Independent Voice of American Aeronautics

Published the 1st and 15th of each month by American Aviation Associates Inc., American Building, 1317 F Street NW, Washington, D. C.

WAYNE W. PARRISH, EDITOR AND PUBLISHER

ROBERT H. WOOD, EXECUTIVE EDITOR ERIC BRAMLEY, MANAGING EDITOR
DEPARTMENT EDITORS: David Shawe (War Agencies); Katherine E. Johnsen, (Legislation); Conrad Campbell (Manufacturing); E. J. Foley (Equipment); James L. Straight (West Coast).

On Leave with the U. S. Navy: George Shumway, Leonard Eiserer, Charles Adams.

BUSINESS MANAGER, Thomas E. Lindsey ADVERTISING MANAGER, Thomas McGill
REGIONAL REPRESENTATIVES:

James L. Straight, Western Division Manager, 1200 Title Guarantee Bldg., Los Angeles, Calif. Telephone: Madison 1313.
Harry Brown, Midwestern Advertising Representatives, 3000 Sheridan Road Chicago, Ill. Telephone: Lakeview 6704.
O. R. Elofson, Eastern Advertising Representative, 2207 RKO Bldg., 1270 Sixth Avenue, New York, N. Y. Telephone: Circle 6-9446.
J. Forecast, British Representative, Edwin Greenwood Ltd., Strand, W.C.2, Thanet House, London, England.

PUBLISHING CORPORATION: American Aviation Associates, Inc., Wayne W. Parrish, President; Col. Albert H. Stackpole, Vice-President (in active military service); Brig. Gen. E. J. Stackpole, Jr., Secretary-Treasurer (in active military service).

PUBLICATIONS OF AMERICAN AVIATION ASSOCIATES, INC.:

AMERICAN AVIATION: Subscription rates for U. S., Mexico, Central and South American countries—\$3 for 1 year; \$4 for 2 years; \$5 for 3 years. Canada—\$3.50 for 1 year; \$6.50 for 3 years. All other countries—\$4.50 for 1 year; \$9.50 for 3 years. Member of Audit Bureau of Circulation, Associated Business Papers Inc. and Advertising Federation of America.

AMERICAN AVIATION DAILY: Published six days each week except holidays, dispatched by air mail. A comprehensive newsletter covering daily developments in aviation. \$15 per month; \$85 for six months; \$170 per year. Group company rates on request. Service Bureau available to all subscribers. CONRAD CAMPBELL, Managing Editor.

AMERICAN AVIATION DIRECTORY: Published twice a year, spring and fall. Complete reference data on administrative and operating personnel of airlines, manufacturers, accessories firm and their products, organizations, schools and local operators, federal and state government agencies concerned with aviation and related aviation interests in the U. S., Canada and Latin America. Single copy, \$5; Annual subscriptions, \$7.50. Discounts on quantity orders. Next issue Oct. 15, 1942. DAVID SHAWE, Managing Editor.

Fortnightly Review

(Continued from page 1)

The Board is now faced with several vital problems which should be pondered well prior to action.

First of all, what of the numerous applications for Caribbean services that have been gathering dust to these many years? How can the Board ignore those carriers and prospective carriers who have pleaded for a chance to operate in this area? And what of the Board's own decisions in the past rejecting additional services, such as the New Orleans-Central American decision which set an all-time high for ignoring facts and public requirements?

Secondly, is the Board's "invitation" really an opening wedge to permit one or more foreign carriers to expand their services into the United States? And if so, how can the Board justify permitting foreign carriers to come into the U. S. in preference to giving the same operating rights to American carriers? Several foreign carriers may have a certain amount of equipment available, but it is equipment purchased in this country and any additional equipment must also come from here.

It is no secret that the Dutch airline in the West Indies, KLM, would like to expand. Nor is it any secret that Lowell Yerex's airline, TACA, wants to come to Miami and indeed has been doing so on a charter basis. We believe in reciprocity and expansion. But we don't believe in these at the expense of American carriers who have been prohibited from expanding in the past and who are now engaged in war work.

The Board is up against a hard problem, but it is a problem composed of all of the blunderings of its own past record. It must furnish more service in the Caribbean, but it must also protect American interests in doing so. The Dutch stake in the Western Hemisphere is modest. TACA is owned and operated

by a New Zealander. American airlines are carrying a tremendous burden. But somewhere in the group of airlines nears this area—Pan American and its local subsidiaries, Eastern, Delta, Chicago and Southern, National, and Braniff—there should be sufficient equipment and personnel found to do the job. The Army's full cooperation should be demanded, since the service will most largely benefit the military.

It is ironical indeed that the Board must scrape around and find a solution, but we enjoy seeing it faced with a tough problem created from its own past performance.

Rick Is An Ace Again

THE great record which Capt. Eddie Rickenbacker rolled up in World War I is being duplicated by him in the current global war. This time, however, Capt. Eddie is doing his best work "behind the scenes" without glamor and without newspaper headlines for daring exploits. In one city after another he is meeting with leading business men to give them an off-the-record and straight-from-the-shoulder analysis of the war and the truth about our military aircraft.

He has become Morale Builder No. 1. He knows his subject and does a convincing job of giving the straight answers to the questions in the minds of the layman. He is rendering as valuable a service to his nation as though he were out on the fighting front destroying enemy aircraft in the air. Capt. Eddie has an extraordinary facility for explaining aeronautical mysteries in words the layman can understand. In his off-the-record talks he minces no words about the uninformed critics who have slandered U.S. fighting planes. He deserves the highest commendation for sacrificing his valuable time by going out into the country and telling the truth. It is a war service of the highest type.

An Honest and Worthy Attempt

CAPT. Gill Robb Wilson lost the Republican nomination for Senator from New Jersey by a mere few thousand votes, but his fight was clean and without the usual monetary advantages of those who ordinarily aspire to political office.

Thus is lost for the present an opportunity to have an aviation man in the nation's highest legislative branch. The apathy in a large part of the aviation industry is hardly to its credit, for informed aviation friends are mighty scarce in Congress and friends will be needed when the post-war political butchering starts. Handicaps placed in the way of Gill Wilson by selfish interests and those who had their reasons for not wanting a well-informed man in the Senate, contributed greatly to the slim defeat. The whole story is not one that can very well be printed, but the aviation fraternity who knows Gill Wilson should be apprised of the news that New Jersey has been awakened to airpower and that the primary fight was a good one. It is disappointing that aviation must bide its time a bit longer before it has an informed spokesman in a Senate seat.

AMERICAN AVIATION Directory Scheduled for Publication

Preparation of the sixth revised and enlarged edition of AMERICAN AVIATION DIRECTORY, earlier scheduled for publication October 15 but delayed pending clarification of War Department policy on industrial directories, will proceed immediately.

War Department Public Relations has granted permission to continue publication of the Directory without editorial restrictions other than those in force for the previous edition. Companies and organizations throughout the industry have been mailed questionnaires and proofs for new and revised listings.

October 3 has been set as final date for accepting all listings. Advertising forms will close October 26, with distribution of the new edition scheduled for the third week in November.

Letters

Indianapolis, Ind.

We in aviation are very grateful to you for the fearless manner in which you are putting forth the facts in aviation. It seems as though the military services have forgotten that we in civil aviation are trying to educate the public and the powers that be, in aviation, and still they try to give us a kick in the pants every chance they get.

Every man in civil aviation wants to do his whole duty to help bring this war to a successful conclusion, and they are doing a good job—however, the old attitude as far as the military services are concerned, still goes: we commercial people are worth nothing, and we do not know how to fly.

There are still about 129 million people in this country who have never been off the ground. We have tried to educate the people in aviation, and have spent much time and money in getting them interested enough to visit the airports: now, this effort is going to waste to a certain degree due to the fact that the military services tell them that they are not wanted at the airports and they must stay away. It is, of course, true, that certain precautions must be taken to safeguard our equipment, etc. from sabotage—but we in civil aviation know this fact, and are taking the proper precautions. If we drive the people away from the airports now, after spending 25 years and much money to bring them out, it will take another 10 or 15 years to get them in the habit of coming to the airports again.

These airport visitors also have a governing effect on how many recruits sign up for military flying. In my own personal case, I have flown a number of mammals and poppas for their first ride, and in many cases I have heard them say, in effect—"That's not so bad. I'll think I'll let my son join the Air Corps." Also, in this way we have gained many students for our school, which have been passed on to our military services. Our work is teaching instructors for the Army and Navy, and we have been fortunate in being selected as an advanced school, and have graduates flying in the services all over the world, and in many of the contract military schools. We feel that we are doing our part in the war effort, but, also, that we could do more if the military services would cooperate. I am sure that all of the other aviation schools feel the same way.

To give you a better illustration of how interested the public is in aviation, and how much we have to do—I have been located here for three years, and during that time have put forth a great effort to get the people to come out to the airport and take at least one ride. During this time, I have flown a Stinson A, tri-motor, only on Sundays and holidays to accommodate

them. We have flown approximately 30,000 people for their first ride, and are flying them at a rate of 300 every Sunday now. The Stinson A was so badly needed for service, that I sold it. It is now being used to haul military supplies to Alaska. I am now operating a tri-motored J5 Ford, No. 23. It is certainly an old airplane, but it still does the job.

This Ford flies slowly, and the passengers can obtain an excellent view of the ground. Since it is their first ride, they are tickled pink to get up and down safely! It is very amusing, and never becomes monotonous, to watch the expressions on the faces of these people, and see just how ignorant the general public is regarding aviation—regardless of all the work and effort that has been put forth. The greatest error that we in aviation have made, is to assume that the people are air wise. There is a terrific job to be done, and I am pleading with the military services to keep commercial aviation going and let it work for the military services.

In killing commercial aviation, the services would be cutting their own throats with the general public of the United States, because it is through commercial aviation that the military services can reach the people—the military services have their own work to do, and would greatly benefit by cooperating with us. . . . After we win the war we must have our commercial aviation in working order to win the economic aviation war to follow.

Roscoe TURNER,

President

Roscoe Turner Aeronautical Corp.



WHO'S WHO IN AVIATION. Compiled By The Writers' Program of the Work Projects Administration. Published by the Ziff-Davis Publishing Co., Chicago and New York. 486 pp. \$5.00.

It has been almost 15 years since there has been a serious effort made toward publishing a comprehensive "Who's Who" of aviation. Such a book has been needed. It is a pleasure to report that the current volume is a credible one.

There are over 4,000 biographies and no space is wasted. Backgrounds and occupations are confined to aviation, thus eliminating much less useful information. Typographically the book is good. The workmanship seems eminently satisfactory.

Naturally there are many important names left out (in a hasty glance we noted the absence of such names as Harry Woodhead, president of Consolidated Aircraft Corp., and C. E. Woolman, v.p. and general manager of Delta Air Lines), but the probability is strong that the compilers were simply unable to get these people to return the questionnaires. Such is usually the case with the first edition of any such book. The compilation was carried on for



Courtesy Pan Affairs.

"Captain Jones certainly doesn't take any chances, does he?"

an extensive period of time by a program of the Work Projects Administration of Illinois, and was co-sponsored by the Illinois Aeronautics Commission, and the Chicago Aero Commission. There have been many delays in bringing the material to publication, hence the data are somewhat dated.

It was not a simple task for another reason: in 1939 the aviation field began to expand rapidly, bringing into its fold thousands of new recruits in all lines of endeavor. It would have been impossible for any compilation to include every important personage now in aviation. On the whole the volume is a very good one and should serve many useful purposes.

AIR PATROL by Henry B. Lent. The Macmillan Company, 60 5th Ave., New York City. Illustrated. 170 pp. \$2.00.

This is the story of a fictionalized Jim Brewster who presents his credentials at Floyd Bennett field where he has been assigned to permanent duty in the air patrol of the Coast Guard. The story starts after Brewster has graduated from the Coast Guard academy and takes him through all of his new duties and routines. Climaxing the story is a hazardous flight for which Brewster receives the DFC. The book should be especially interesting to 'teen age youth as well as to those in their twenties. It's good salesmanship on the part of the Coast Guard and well done.

NEW TECHNICAL AND COMMERCIAL DICTIONARY. Spanish-English and English-Spanish. The Chemical Publishing Co., 234 King Street, Brooklyn, N. Y. 600 pp. \$10.00.

Here is a useful volume for those looking to closer relations with Latin America. It should be especially helpful to aviation personnel and companies whose outlook is spreading to the south of the United States and who now have, or will have, business relations with Spanish-speaking nations.

The compilation is by Antonio P. Guerrero, who is editor in chief of the Editorial Técnica Unida, Brooklyn. Many changes have been made in recent years in the Spanish language.

especially among technical words. This volume is compiled for the engineer and technician, and all words referring to mechanics, mechanical engineering, aircraft, aviation, shipbuilding, marine and naval terms, industrial chemistry, plastics, meteorology, etc., are included. It covers a large number of words pertinent to shipping and international trade. Especially valuable are conversion tables of weights and measures, English and metric systems. The dictionary itself is from Spanish into English, and from English into Spanish.

YOUR CAREER IN PLASTICS, by E. F. Lougee; Plastics Industries Technical Institute, 186 S. Alvarado St., Los Angeles, Cal.; 14 pp.

A short informative pamphlet which will be of value to those interested in the vast new field of plastics from the job standpoint.

ASTRONOMY, MAPS, AND WEATHER, by Professor C. C. Wylie, State University of Iowa; Harper and Brothers, 49 East 33rd St., New York, New York; 449 pp.; \$3.00.

This volume was prepared at the request of the AAF Flying Command for use as a text in the pre-training of aviation cadets.

Chapters cover: celestial sphere; constellations; telescopes; earth; motions of the earth; seasons and the calendar; weather; clouds; weather forecasting; maps; time; celestial navigation; moon; eclipses; paths of the planets; planets; comets, meteors, and meteorites; sun; stars; our Galaxy and others.

The text presents pertinent background material, as well as practical information, to the prospective airplane pilot.

R. F. Mounton, Secretary of the American Association for the Advancement of Science says of it: "It points out new relations between scientific theories and urgent practical problems of the day . . . Its science is illuminated by the applications; its applications rest on fundamental scientific theories."

Photographs, diagrams, charts, and maps are included.

CLOSED TILL AFTER HITLER'S FUNERAL



THIS IS THE SIGN that hangs on the bolted doors of a small repair shop near Fort Worth, Texas. A young man in his twenties, who used to work here, was one of the gallant band who fought on Bataan. His fifty-year-old father, owner of the shop, and two 'teen-age brothers are fighting men, too. They're building planes for North American.

Not all our employees, of course, have the example of a son or brother in the armed forces to inspire them. But there's not a single North American worker who doesn't understand his personal stake in victory, who isn't grimly proud of his part in bringing the day of victory closer.

This will to win is the foundation for North American teamwork. It makes bombers, fighters, and training planes come out of our plants *fast*. It is the reason why, instead of "freezing" designs, we steadily improve our planes, making each one the very

best plane that we can produce on any given day.

Some day, "after Hitler's funeral," North American teamwork will be building planes to dominate the skies of peace. Until then the sweetest music to our ears is the chuffing of trains delivering materials to us, the hum of production, the full-throated roar of each new North American plane as it flies away to strike at America's enemies.

NORTH AMERICAN AVIATION, INC.

Main Plant, Inglewood, Calif.

Member, Aircraft War Production Council, Inc.

NORTH AMERICAN *Sets the Pace!*



After Hours



In the workshop of his Cheyenne home, Mechanic Herbert Lebert spent many off-duty evenings, drawing and re-drawing plans. After months of "after hours" work, he perfected a gadget for reclining DC-3 seats, lighter and more efficient than the original mechanism.



Captain C. M. Christenson spent a great deal of spare time during the past two years developing a system of trip-following in order to facilitate flight logging. The Western division flight officer's suggestion is being adopted for regular operation.



S. C. Hall goes at top speed in United's communications center at Chicago, directing a big flow of messages across the system. During off hours, he figured out a better way of handling messages that saved time and money for his company.



EVERY NIGHT, many United employees study some problem, perhaps some little shop practice, to see if they can supply safer, better, more economical ways of doing things.

Every day, a dozen or so suggestions arrive by mail at United's headquarters. Those suggestions are carefully considered by a group of officials.

The cash awards which United Air Lines gave

in 1941 to 150 employees for useful suggestions represented the reward for their "after hours" thinking, not the incentive.

Incentive is the desire on the part of those employees to contribute something to the welfare of their company, to have some real voice in the conduct of their company . . . because it is their company.

UNITED AIR LINES



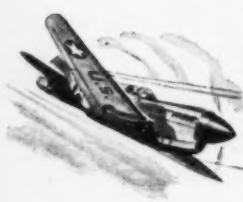
COMMUNICATIONS

... directing arm of combat



"Get the message through!" That's the tradition of the men who wear this insignia. Of the 18,000 Bell System people now in the armed forces, nearly 4,500 are with the Signal Corps. Young men can serve their country and obtain specialized training in communications in this great branch of the Army.

...and Western Electric equipment goes to every battle front



Army planes fly and fight with Western Electric radio command sets, which keep the planes of a squadron in contact with each other and with the ground forces.

Wherever American soldiers fight in tanks, they get their orders over Western Electric radio sets—vital in coordinating today's mechanized warfare.



Observers report front-line action to Army commanders over Western Electric field telephones, field wire, field switchboards.

A major source for this specialized equipment is Western Electric—for 60 years manufacturer for the Bell System—one industry with over 70,000 skilled men and women dedicated to "keep 'em in contact."

Western Electric

ARSENAL OF COMMUNICATIONS



Victory In The Air?

Much Depends Upon

Public Opinion

WHEN the United States entered this war, there was no need to "sell" the American public upon the necessity for ships, trains, motor trucks, tanks. Public thinking was solidly behind all of these because they operate upon the earth's *surface*: in the water and on the land, in the realms in which we were the world's leaders.

Until our enemies made this a third-dimensional war, we had the option of remaining-upon-the-ground or of taking-to-the-air. An overwhelming majority of us chose to stick to the earth's surface. As a result, when this war's challenge came, it came in the realm where we were the least prepared—in the air!

Hitler Knows—

That our staff officers are formidable—

That the fighting quality of our armed forces cannot be underestimated—

That our production genius and vast capacity are unexcelled—

Therefore, to defeat us, he can hope only for public inertia in the realm of aviation—the result of the failure of more of us to understand, adopt and use air transportation.

We Cannot Dodge These Facts

That airplanes will *increase* in military importance—

That we Americans must gain supremacy in the *air* in order to survive upon the *earth*—

That the records prove the new aerial strategy must *supersede* older methods—

That *all* of us must think air-thoughts in order to defeat the Axis.

Salute Our Air Men!

There is permanency in what our air officers and their fellow aviators are doing. Their work will not stop when hostilities cease.

As our Air Men fight, they also are drawing the blue-print of our nation's status in the post-war world. They

are laying the aerial foundation, around the globe, for America's future trade and commerce. They are designing the new pattern of our lives.

They Are Teachers As Well As Warriors!

They are teachers in the new school of thought which determines tomorrow's balance of world power, economic and political . . . teachers of airography . . . teachers of how to measure in time-units, not in mileage! They know that every race, color and creed on earth is now rapidly becoming *united* by war-planes. They also know that—

Nations Will Remain United by Peace-Planes

It would be illusory to think that with the conclusion of this war the world will revert to pre-war conditions . . . to dependence upon slow, circuitous surface-travel routes . . . to isolation, immune behind barriers of distance. Aviation cancels the protection of those distances. No longer are we separated from friend or foe by thousands of miles; instead, we are linked to them by a few air-hours. The responsibility of protecting our nation from the results of these epochal air changes does not rest wholly upon our military men.

You Make Public Opinion

Our air officers and all of our aviators are doing *their* heroic part to win this war. But, for the U. S. A. to dominate the air, the pressure must come from *you*—the public.

As more of us become air-advocates . . . as more of us get off the ground, physically as well as mentally, we can generate the force that *will* defeat our enemies. Because, in the last analysis, the effectiveness of our Air Forces must stem from an aroused and articulate public spirit and conviction.



A. N. KEMP
President
American Airlines, Inc.

In recent weeks, American Airlines, Inc., has been assigned by the military to additional new war missions. The people of American Airlines, Inc., are rightfully proud to be doing several different kinds of important war work. One part of their work is maintaining at higher efficiency than ever American's air transportation services here at home for war workers and for American industry. It is self-evident that there is no substitute for air transportation in our nation's war effort. Men in industry are busier than ever. Many of them are taking on more duties and responsibilities. Therefore, they must do more travelling back and forth between factories, offices and sources of supplies widely separated all over our vast nation. For these hard workers on the home front, time is of the essence.

AMERICAN AIRLINES Inc.

ROUTE OF THE FLAGSHIPS

LEGISLATION

Senators Praise Planes

(Continued from page 25)

he said we were producing the best planes in the world.

Mr. TRUMAN. We are in two-thirds of the cases, but in the most vital one-third we are not.

Mr. WALLGREN. In the matter of bombers and interceptors we have the finest planes in the world, but in fighter planes we are inferior.

Mr. HILL. Mr. President, I am interested in knowing whether the committee had General Brett before it. General Brett, of course, has spent the last year, as we know, in the Far East. I saw a statement made by General Brett, which I construed to confirm the statement which Captain Rickenbacker made, and I should think that if there were any one man now in America who perhaps could speak with authority on this subject, certainly so far as our planes compared with the planes of the Japanese are concerned, it would be General Brett, who has just returned from the Far East, and who was in command of all our Air Force in the Far East.

Mr. TRUMAN. We have not a recent statement from General Brett, but we have an earlier statement from him.

Quotes Arnold

Mr. JOHNSON of Colorado. Mr. President, I should like to ask the chairman of the committee whether General Arnold testified before the committee. Not so long ago General Arnold testified before a subcommittee of the Committee on Military Affairs to the effect that the reason the Zero fighters could fly higher and faster was that they were entirely stripped; that they were suicide planes; and that whenever one of them was hit it was gone. He testified that our boys had been told that our planes could be stripped of armament and guns, so as to make them as light as the Zero planes, and that if they were stripped they would have all the speed and maneuverability of the Zero planes, but that the boys declined to fly such planes. The Air Corps did not feel that it should ask our boys to go up in such planes. They could do so voluntarily if they so desired. Instead, they want a plane which has fire power and resistance to attack.

Mr. LUCAS. That is my understanding. However, I did not know that General Arnold had given such testimony. It has been stated in the press from time to time that the real reason the Jap plane is probably superior in maneuverability, at least, is the very thing to which the Senator from Colorado has referred. I presume we could do the same thing, as the Senator says, if we wanted to strip our planes of armament and send our boys up in "suicide crates," as the Japanese are doing at the present time with the Zero planes.

Mr. WALLGREN. Mr. President, we are not merely trying to draw a comparison between the Japanese Zero plane and our fighters. Our fighters suffer by comparison with the British plane as well. It is my understanding that our fighter planes cannot measure up to the fighting qualities of the British planes.

We know that in the Zero plane, armament has been sacrificed. We know that that plane has been made as light as possible. We know that it cannot very well come out of a dive without cracking up, because it is so frail. However, what we want to do is to build something which can measure up to the best fighters which Great Britain is producing today. I think we have sacrificed fighters for bombers, interceptors, and trainers.

Mr. NORRIS. The Senator from Washington has just referred to the comparison of our planes not only with

Japanese planes but with British planes as well. It seems to me that, inasmuch as at the beginning of this war, as the Senator from Illinois (Mr. Lucas) has so well pointed out, we had not had the experience which our enemies had had, we might be excused for not having as good planes as Germany or Japan, even though we were trying to get the best planes possible. However, I do not see how we can be excused for having a plane which is inferior to the British planes. We cannot, on a moment's notice or a month's notice, have opportunities to examine German or Japanese planes, because first we must capture them.

However, that situation does not exist in the case of British planes. Great Britain is our ally. I may be mistaken, and I hope I am, but I am sorry to say that I have the idea that today the British make the best fighting plane in the world. We ought to have access to it. Great Britain would be glad to give us access to it. There is no reason why we should not be manufacturing that British plane in quantity. We can get all the details about it without any trouble. They are at our disposal. Why have we not taken advantage of that opportunity?

Mr. WALLGREN. Mr. President, let me say to the Senator from Nebraska that I think the real reason is that up until the present time we have neglected the fighter program in favor of the bomber program. Most of our efforts have been devoted to turning out as fine a bomber as we can build. We are doing that with the B-17, the B-24, and the Martin bomber. We are doing a very good job. We may be a little over-anxious now, but I think very shortly we shall find that we shall be catching up on the fighter program.

Mentions Spitfire

Mr. NORRIS. Since we commenced the program, since December 7, we have been making fighter planes. We had the possibility of starting with a model which today is probably the best fighting plane in the world. I refer to the British Spitfire. It seems to me that we ought to have taken advantage of that opportunity from the very start. Why try to make a plane without examining into the planes of our allies? Our allies have had experience. They have had better opportunities than we have had. They have had the experience of the war, and have gradually built up fighter planes. I think it is true, as the Senator has said, that our planes in other categories are superior; but it seems to me that there is no reason why we should not have started with the best plane which Great Britain makes. Great Britain would have been glad to give us all the information possible.

Mr. TRUMAN. I am sure that the British would give all the information we would ask for; but I think we did not adopt that program for the same reason that we did not adopt the Russian synthetic rubber program.

Mr. NORRIS. That is another instance. Why have our officials who have had charge of the program turned a deaf ear to such offers? We had an opportunity to get the best planes available. We had an opportunity to start with the best fighting plane in the world, because our Allies are making that kind of a plane.

In time we probably could produce as good a plane as the Spitfire, but it seems to me that there is no excuse for making a fighting plane which is inferior to the Spitfire, when we could just as well have made the Spitfire itself. Great Britain would be delighted to have us

Defense Migration Group to Report

The House National Defense Migration Committee headed by Rep. Tolan (D., Cal.) will soon make its Sixth Interim Report, it is revealed. The Committee takes the position that the manpower agencies are not yet prepared for national service legislation covering industrial as well as military mobilization.

Chairman Tolan proposes that contracts first be distributed so as to utilize untapped sources of manpower. The Committee's criticism is that war work is concentrated in certain areas with labor shortages while labor over-supply exists in other areas.

The Committee also advocates that the relationship between the Army and War Manpower Commission be clarified. WMC has authority over occupational deferments, which, as manpower shortages develop, may conflict with draft policies.

In its Fifth report, the Committee charged a lack of coordination between manpower mobilization and procurement policies. Labor, it was emphasized, should now be the primary consideration in the letting of contracts. The report criticized WPB Chief Nelson for surrendering procurement powers to the military services.

Hearing Schedule

Chairman O'Mahoney (D., Wyo.) of the war materials subcommittee of the Senate Public Lands Committee, has tentatively set Oct. 5 and 6 for hearings to determine "what the petroleum industry should do to guarantee an ample and unfailing supply of aviation gasoline and lubricating oils to the Flying Fortresses of America". Representatives of all agencies having jurisdiction over the production and distribution of oil will appear.

Suspends Statute

The Senate recently approved suspension until June 30, 1945, the running of the Statute of Limitations applicable to civil and criminal antitrust cases. The legislation now awaits action by the House. A recent law suspends the running of the Statute of Limitations applicable to offenses against the U. S. Government until June 30, 1945.

manufacture that plane in quantity. We are better prepared to do it than she is. She must conceal her manufacturing establishments. Since the beginning of the war she has been subject to the bombing operations of Hitler. It has been dangerous for her to manufacture Spitfires, and other weapons of war, because she was always running the risk of having her factories put out of business by German bombs. We have not run that risk. We could make them on the open prairie. There is no reason why Great Britain should not be supplied with Spitfires made in this country, and no reason why our boys should not have them to fly.

Senate Bill Provides Transportation for War Workers

Legislation recently passed by the Senate and now pending in the House authorizes the Secretaries of War and Navy and the Chairman of the Maritime Commission to supply adequate transportation, not only for their own employees, but also for employees in private planes filling war contracts.

Because of defense expansion many employees are forced to live at great distances from their places of employment, the Senate Naval Affairs Committee report on the legislation comments.

It continues: "Commercial transportation facilities are either inadequate or not available, and personally owned automobiles have been used to a very large extent . . . The replacement of tires on these . . . automobiles will not be possible . . . Experience in numerous localities has indicated that the transportation service authorized by the bill is urgently required in order to maintain the efficient operation of navy yards, other Government establishments, and private plants engaged in the production of war material."

The legislation provides for the charging of fares so that the Government will be reimbursed in part for the cost of furnishing the transportation. Minimum seating capacity of vehicles which may be purchased is 12. ODT is to determine whether or not proposed transportation facilities are "essential".

Senate Group Studies Use of Magnesium in Plane Construction

Sen. Wallgren (D., Wash.), head of the aviation subcommittee of the Senate's Truman Committee, states that his group is, and has been for some time, vitally interested in the use of light metals in aircraft, particularly magnesium.

Although magnesium, to date, has not been extensively used in U. S. aircraft construction, the committee is following carefully experimental work which promises a considerably lighter craft, Sen. Wallgren says. He mentions in particular one manufacturer who has developed a fighter which will use magnesium extensively, and evidenced much optimism on the plane's possibilities.

Sen. Wallgren states that the nation's augmented magnesium program will multiply normal production by over 21 times. Germany, he points out, is using magnesium extensively in aircraft.

Hinkel Resigns

Thomas S. Hinkel has resigned from his position as a counsel of the House Naval Affairs Investigating Committee and is now a first lieutenant in the Army. William Shaughnessy, who was joint counsel with Hinkel, is now the Committee's counsel.

The B.F. Goodrich Airplane of the month

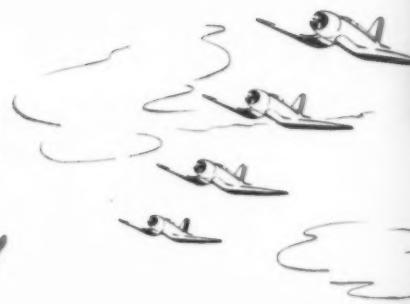
BELL AIRACOBRA

BOLT OUT OF THE BLUE! It's the famed Bell Airacobra, a clean, swift "Cannon on Wings" that packs the wallop of a 37 mm. anti-tank cannon in its nose, and 30 cal. and 50 cal. machine guns in its wings. For months Airacobras have been in the fight, furthering our cause, doing our nation proud. New planes are streaming off the Bell lines by the hundreds. And many B. F. Goodrich products, including the famous Airplane Silvertown Tires, are helping to "Keep 'em Flying." This month, B. F. Goodrich salutes the Bell Airacobra, a great plane, with a great record of service in many a combat!

The Army flies with
B.F. Goodrich
FIRST IN RUBBER

B. F. GOODRICH RUBBER RESEARCH FOR THE

Aviation industry



Conductive tail wheel tread "grounds" static electricity

AS MENTIONED in a previous article, static electricity is generated by a plane in flight. When a plane lands, its three points of contact are the tires, which, when made of ordinary rubber, act as insulators.

Thus, the static electricity is not discharged and can cause the annoyance of shock to passengers or crew. Furthermore, there is a chance of the electrical discharge causing a spark during refueling.

To overcome this situation, B. F. Goodrich set out to develop a tail wheel which would conduct static electricity off a plane as soon as it touched the ground.

Carbon black, being a good conductor, was experimented with. The carbon black content of tail wheel treads was increased. But the solution of the

problem was not an easy one. For, by increasing the carbon black content of the tread and thus stepping up its conductivity, tests showed that the tread wore badly and flex-cracked.

New and better types of carbon black were developed that made it possible for B. F. Goodrich engineers to produce a tread which had all the desired qualities of durability and, at the same time, acted as a conductor. Now B. F. Goodrich Tail Wheel Tires in use are electrical conductors. When a plane uses these tail wheels, the static electricity leaks off upon contact with the ground. This special conductive tread offers advantages for military as well as commercial aircraft. The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.

MAKERS OF B. F. GOODRICH TIRES AND OVER 80 RUBBER
AND SYNTHETIC RUBBER PRODUCTS FOR AIRPLANES



ELECTRICALLY CONDUCTIVE TAIL WHEELS

made by B. F. Goodrich



CONDUCTIVITY IN A TAIL WHEEL TIRE is indicated by a simple test. Voltage is applied to an electric light bulb in series with two contacts on the tire. The relative conductivity of the tire will be shown by the intensity of the light produced.



WHEN THIS LOCKHEED-HUDSON MEDIUM BOMBER makes a landing, its B. F. Goodrich Tail Wheel Tire comes into contact with the earth. This tire dispels the electrostatic charge which has built up on the plane during flight.



In war or peace
B.F.Goodrich
FIRST IN RUBBER

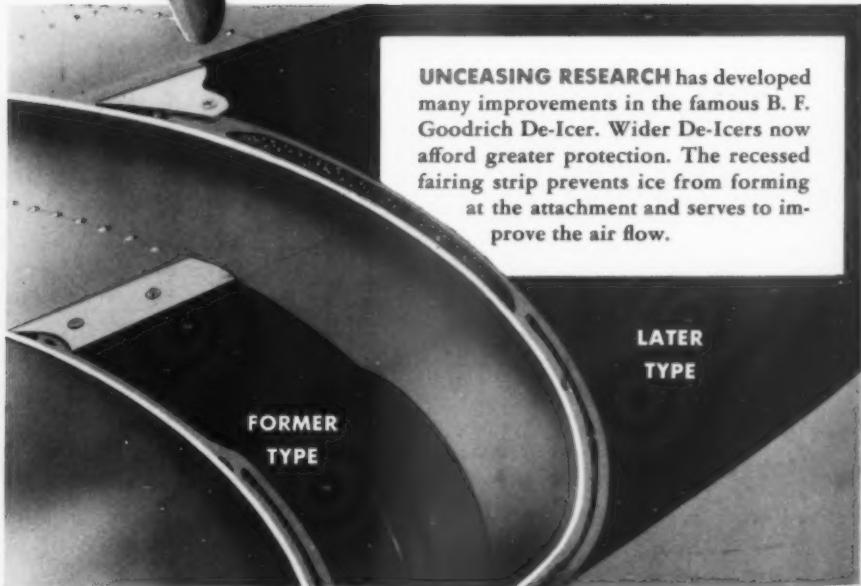
from the B. F. Goodrich Notebook



PRODUCTS THAT "defy the elements" are one of the most important contributions to aviation made by the B. F. Goodrich Aeronautical Division. Here you see a Feed Shoe being inspected on a typical three-bladed propeller. This rubber product makes it possible to bathe the whirling blades of a propeller with protective anti-icing fluid.



RIVNUTS, the B. F. Goodrich hollow rivet which can be upset from one side, can now be installed at greatly increased speed with a newly developed power tool. Write for the new handbook which has just been issued for designers and engineers.



UNCEASING RESEARCH has developed many improvements in the famous B. F. Goodrich De-Icer. Wider De-Icers now afford greater protection. The recessed fairing strip prevents ice from forming at the attachment and serves to improve the air flow.

B. F. GOODRICH AERONAUTICAL DIVISION • AKRON, OHIO

Applications for Air Transport Lines in Caribbean Area Sought by CAB

U. S. or Foreign Carriers Asked to Apply

REVEALING that the war has caused a "serious" shortage of transportation facilities in the Caribbean area, the Civil Aeronautics Board on Sept. 10 instituted an investigation to determine whether the public convenience and necessity requires the inauguration of temporary air transportation in that area.

The Board stated that any U. S. or foreign air carrier desiring to render such temporary air transportation, "and having available equipment and personnel to enable it to inaugurate such service immediately," should file application with CAB within 15 days.

The present shortage of transport facilities in the Caribbean may "adversely affect the national defense and the relations of the United States with Latin American countries," the Board warned.

In inviting applications, the Board mentioned the area "between Miami . . . and Central America, the Canal Zone, the North Coast of South America and the Islands of the Caribbean Sea . . ."

In another order relating to the same subject, the Board said it is instituting a proceeding to determine whether Pan American-Grace Airways should be granted a U. S. terminal (see story elsewhere).

Applicants for Caribbean service, CAB explained, should state the approximate length of time required after decision by the Board which they will require to inaugurate service, and should specify the equipment presently available.

Air transport observers were somewhat puzzled as to why the Board invited Caribbean applications when there were already nine on file for routes in that general area. These applications include:

Waterman Airlines, for New Orleans-San Juan; National Airlines, for Tampa-Havana; Pan American, for New York-Puerto Rico; Pan American for New Orleans-Guatemala City; American Export, for New Orleans-Canal Zone and New Orleans-Havana; International, for New York-San Juan-Havana-Mexico City; TACA for San Jose-Miami, and Panagra for Canal Zone-Miami.

Observers were wondering what airlines would have sufficient spare equipment to inaugurate a new route. It was also considered significant that foreign, as well as U. S. carriers, were invited to file.

Bus Company Seeks Mail-Express Airline

The Black Hills Transportation Co., operator of sightseeing busses, has applied to CAB for a mail-express air route from Billings, Mont., to Sioux Falls, S. D., via Sheridan, Black Hills Airport, Rapid City and Mitchell.

Paul E. Bellamy, president, informed the Board that at some time in the future the applicant proposes to extend the line to Chicago.

Although asking for mail-express only, the application said that the company "anticipates that the carrying of passengers as a successful feature of the war effort will be developed after the operation has been established."

It added that "applicant's president has been active for two years in an endeavor to persuade other airlines to make application for service over the proposed route, with negative results."

The company said it would use Civil Air Patrol pilots now owning aircraft. It would pay the owners' pilots on a mileage-flown basis.

Between 39c and 40c per mile mail pay would be required for the route, it said.

August Accidents

Twelve fatal accidents in non-air carrier flying were reported to the Civil Aeronautics Board for August, 1942. CAB said there were three spin accidents, one while crop dusting. Two were collisions in full flight, one with wires while crop dusting and the other with aircraft. Reports of the seven other cases have not been received from the investigators.

CAB to Consider Panagra's Plea for U. S. Terminal

The Civil Aeronautics Board on Sept. 10 instituted a proceeding to determine whether Pan American-Grace Airways' certificate of convenience and necessity should be amended to include a terminal within the U. S. at Miami or Tampa, Fla.; New Orleans, La.; Brownsville or El Paso, Tex.; Los Angeles, Cal., or two or more of these points.

Panagra, whose ownership is equally divided between W. R. Grace & Co. and Pan American Airways, now operates between the Canal Zone and Buenos Aires via the west coast of South America.

Panagra, through W. R. Grace, first sought the U. S. terminal several months ago in a bitterly-worded petition filed with CAB. It also asked that the Board require Pan American to divest itself of ownership of stock in Panagra "to such an extent as may be necessary to divest itself of its present negative control" of Panagra.

The petition was filed by W. R. Grace, which stated that Panagra, because of the opposition of its 50% stockholder, Pan American, is not authorized by its board of directors and stockholders to make application for a U. S. terminal.

Panagra, Grace and Pan American were made parties to the proceeding instituted by the Board.

PAA Appoints 2 On Atlantic Division

Pan American Airways has announced the appointment to its Atlantic Division of Roy C. Samuelson as airport traffic manager, and of Woodford S. Bankson as airport engineer.



Bankson

Samuelson

Samuelson has been in the travel business for 23 years and will have general supervision over the dispatching of passengers and cargo on clippers arriving and departing from LaGuardia Field, New York. Before joining PAA in February of this year he had been with the Swedish-American Lines since 1919.

Bankson joined the company in March of this year and will have supervision over the division's airports in North America, Europe and Africa. He will have charge of all construction and maintenance.

Airlines, Parrish, Honored at Luncheon

Three airlines serving Kansas City were honored by the Kansas City Chamber of Commerce at a luncheon attended by 500 business and aviation leaders on Sept. 9, for their contribution to the war effort.

W. R. Brown, chairman of the general aviation committee of the Chamber, presented certificates to representatives of the lines: Paul E. Richter, executive vice president of TWA, Inc., Charles E. Beard, vice president of Braniff Airways, and J. W. Miller, president of Mid-Continent Airlines.

The certificate commended the airlines for maintaining commercial service for civilians while operating world-wide services for the Army's Air Transport Command, saying that this "is a tribute to the wisdom of your executives, the excellence of your equipment and the skill and resourcefulness of your operating personnel . . . Congratulations on your successful performance of a grim and daring task . . . on your resourcefulness and reliability . . . and on helping to build the foundations for a world-wide commercial transport service which will make the whole world of tomorrow one community of close neighbors".

A fourth certificate was presented to Wayne W. Parrish, editor and publisher of AMERICAN AVIATION, speaker at the luncheon, by Gordon T. Beahan Jr., v.p. of the Chamber in charge of aviation. The certificate honored Parrish for his aviation reporting and writing. Russell Cantwell is director of the chamber's aviation department.



Airlines Honored: Three airline executives are shown with certificates presented to them by the Kansas City Chamber of Commerce at a luncheon Sept. 9. They are, left to right, J. W. "Bill" Miller, president of Mid-Continent Airlines, Inc.; Paul E. Richter, executive vice president of TWA, Inc., and Charles E. Beard, vice president of Braniff Airways. Purpose was to honor all airlines for the big war job they are now doing.

Burden Report Reveals Demand for More Air Service in S. A.

Background for Post-War Growth Shown in Study

By ROBERT H. WOOD

"**T**HREE is greater need for air transportation in Latin America than there is in this country with its well developed surface transportation system," William A. M. Burden, now Special Aviation Assistant to the Secretary of Commerce, asserts in a comprehensive report which outlines South and Central American airline operations since 1920.

Although the report, just made public, was completed last year, before the Western Hemisphere entered the war, it presents the background for the coming post-war airline expansion to the South, and assembles for the first time the pertinent geographic, economic and cultural characteristics which combine to make Latin America one of the most promising fields for commercial aviation after the Armistice.

Titled "Latin American Air Transportation," the report was prepared for the Rockefeller Committee while

Mr. Burden was serving the group as a special consultant. Several chapters still remain restricted, but the report is being revised and will be published in book form shortly.

clear that the United States before the war had fewer commercial transactions with South America than did Europe, and at the outbreak of hostilities in Europe about five times as many passenger steamers of more than 8,000 tons were in service between Europe and South America as were in our own South American trade, and passenger traffic was probably in the same ratio.

Surface mail traffic between Europe and South America in 1937 was 45% greater than our own surface mail traffic with the South.

Any real increase in air traffic, therefore, is dependent upon a marked upturn in trade between Latin American countries themselves, and with the U. S., and on a reduction in the cost of air transportation, the study declares.

And it is clear, Mr. Burden says, "that there is room for considerable

expansion in the Latin American area before it will be adequately served."

The extent and volume of operations on the Latin American airline network in 1941 can best be visualized by comparing it with our own U. S. domestic system. While Latin America with its 8,000,000 square miles is somewhat less than three times as large as the U. S., its population of 123,000,000 is slightly less than ours and has a much lower average standard of living.

Volume Less

This explains the fact that although the Latin American system is over twice as extensive as our own, its total volume of traffic is very much less and its airlines flew only about $\frac{1}{4}$ as many miles as the U. S. domestic system. Passenger traffic was 1/6 and mail traffic 6% of ours, measured in passenger and ton miles, while express-freight traffic, on the other hand, was nearly as great as in the U. S. (One-third of this latter total was accounted for by TACA).

Because of inadequate surface transportation, Latin American airlines of the post-war era will find it economically and politically worthwhile to schedule stops at communities of such small size that they would be neglected in the U. S. For instance, there are now about 750 stops on the Latin American airline system—some mere plantations—or three times as many as

there are in the U. S. However, only 19.7% of the total Latin American population has direct service as compared to 29.6% of the U. S. population, the report says.

Local South American airlines already obtain a "surprisingly large proportion" of their revenues from commercial sources, and the report indicates this trend will continue in the future.

Opportunities for both cargo and passenger traffic are evident.

"Looking to the future, there is unquestionably a large amount of commodity traffic available," Mr. Burden finds. "A comprehensive survey would undoubtedly show that there are many high value commodities interchanged between the areas which could be diverted to air by smart promotional work and a reduction in rates.

"There are doubtless many parts of Latin America where freight traffic could be developed on a large scale, particularly in the mining districts of the Andes and Central America and the inaccessible regions of the Amazon.

"Two Latin American airlines operating in territory where surface transportation is poor have developed commodity and merchandise traffic to the point where it provides from 20% to 60% of total revenues. Where surface transportation is limited for the most part to mules, it is often cheaper to carry even very low value goods by air. There is a large but specialized

potential air traffic available in these sections."

Mail traffic will depend to a considerable extent, of course, on future business growth, but Mr. Burden asserts that it is already the opinion of U. S. business interests that a further substantial cut in postage rates might stimulate mail traffic enough to increase gross revenues. "It might also be desirable in the interest of a closer liaison between the American republics."

All Mail by Air

Further, in view of the poor surface transportation and relatively low volume of mail, the report says "it would seem desirable for most countries to dispatch all mail by air without surcharge as soon as possible."

The production of inexpensive heavy capacity aircraft with low ton-mile operating costs will push the growth of air cargo transportation, it is pointed out, but development of such equipment will, of course, be postponed until after the war.

Principal reason for the past and expected growth of passenger traffic is the great time saving offered over surface transportation at little extra cost.

Even before the war, between New York and Latin America, on certain trips, the traveler could save from three days to two weeks at no more than \$20 additional cost. Within Latin America the relative time saving is equally important. On many routes from 80% to 90% of the travel time can be saved by air travel and in some cases the fare is actually lower.

More Comfortable

Surface land travel is often uncomfortable and even dangerous, so that the airplane has a greater advantage in comfort and safety than in the U. S. where it is competing with safe and often luxurious trains, Mr. Burden explains. All of the comparisons above are for heavily traveled routes. When the traveler strays from the beaten path, surface transportation is "incredibly slow and irregular and the airplane has an enormous advantage."

Although it is impossible to determine the exact proportion of total surface passenger travel in and to Latin America which was moving by air in 1941, figures available on traffic between the U. S. and Latin America show that the proportion of travelers leaving the U. S. for Latin American countries by air increased from 2.7% in 1927 to 20.2% in 1940, while within the U. S. the proportion of domestic airline travel to air plus Pullman travel combined increased from 0.7% in 1930 to 11.3% in 1940.

Another factor likely to favor more intensive air travel is the lack of severe winter weather over much of the South American continent. Airlines operating in the area are spared violent fluctuations in operations and as a consequence

(Turn to page 49)



Rubber by Air: The strange bundles with holes through them, shown beside one of Lloyd Aereo Boliviano's Lodestars, are bales of native Bolivian rubber, flown to La Paz from the territory of the Beni in the northern part of the country, where intensive study is underway to increase production. Some 10 tons of rubber a month are said to move by air over this new route. LAB has shortened transit time to the shipping point to a matter of minutes as against several weeks previously. Pan American-Grace Airways is helping develop LAB as a national Bolivian company under the terms of a five-year management contract.

Tough Customer

Concentrated firepower...a smashing blast of machine gun bullets and cannon shells spitting from one point—and heading hell-bent for the target.

That's the kind of firepower that makes a warplane a tough customer. That's the kind of firepower a Lockheed P-38 "Lightning" has...concentrated firepower that's designed in—not added on.

And it's firepower that is *always* concentrated...from muzzles to target, at any range...because it comes slamming from the nose of that unobstructed center cockpit. It's a battle-axe of lead and explosives that can slice off a Messerschmitt wing, or blast a Jap Zero to bits...and it's another reason why a 'plane christened "Interceptor Pursuit" in defense-minded days fits so well its new official air force title, "Fighter"! Lockheed Aircraft Corporation...Vega Aircraft Corporation...Burbank, California

**for protection today, and
progress tomorrow, look to**

Lockheed

FOR LEADERSHIP



Member Aircraft War Production Council, Inc.

Northwest's Payroll May Reach 10,000, Hunter's Report Says

Fiscal Year's Income Rises; War Work Grows

REPORTING a net income of \$430,100 for its fiscal year ended June 30, against \$327,495 a year previous, Northwest Airlines reveals it is planning an expansion to 8,000 or 10,000 employees. Its payroll already has increased from 881 last January to a current total of more than 3,600.

Stating that "hundreds are being added to the personnel roster every week," Croil Hunter, NWA president, pointed out that "the tremendous extent to which the airlines are operating military contracts will be a factor of prime importance in the development of post-war aviation. The problems being met and mastered and the volume of operations being conducted will put air transport in a position to be an important factor in sustaining the post-war economy of the country.

"This experience," he said, "and that gained in the operation of new and larger types of flying equipment and the technical pioneering work being done will be of incalculable benefit to the company and nation when the present world conflict ends in ultimate victory for the United Nations."

Hires Women

Northwest has hired "large numbers of women" for all kinds of work. Many of them are working as machinists, sheet metal workers, welders and in other specialized jobs and their work has been marked by unusual skill, efficiency and precision, it was explained.

Summarizing Northwest's past year, Mr. Hunter told stockholders and employees:

"The character of your company's business has been changed to a tremendous extent. The effect of the war and of government policies falls into several categories: (1) Effect upon volume of commercial operations; (2) Personnel called to military service; (3) War contracts.

Travel resulting from war production and from movement of military personnel, together with increased use of the mails and air express for war purposes, contributed greatly to improved revenues. On the other hand, the requisitioning by the government of airplanes, with consequent curtailment of service, cut short this revenue improvement during the latter part of the year. This requisitioning amounted to approximately half of the company's flying equipment, making necessary nearly a 40% curtailment of schedules, including the complete elimination of service between Portland and Spokane and elimination of passenger service between Twin Cities and Duluth, on which only mail and express are now flown.

"The effect of this curtailment during

the year just ended was not very serious, but the current year is entered into with a greatly reduced volume of commercial operations. However, it is believed that improved load factors and better utilization of equipment will, with the company's other projects, tend to offset the reduced volume of commercial operations.

"Although the government has recognized the vital nature of air transport service and local draft boards have cooperated in deferring many of our technical and key personnel, nevertheless we have found it necessary to replace a large number of men. In all, a total of 174 have left to join the armed services, including 4 of our executive staff. Those are George E. Gardner, who served the company as Vice President—Operations, now a colonel in the Air Corps; W. Fiske Marshall, former Operations Manager, now a lieutenant colonel in the U. S. Marines; A. Robert Mensing, Jr., who served as Western Division Superintendent, and W. D. Inness, our Superintendent of Communications, both of whom are now majors in the Air Corps. We have had to overcome the loss of all these employees and at the same time expand our personnel. Further, we are employing more men whose draft status makes them most remote from Selective Service.

"The most important single government policy affecting your company's status in war time was the decision by the U. S. Army Air Corps to utilize the services of the country's commercial airlines to the fullest possible extent. Successful air transportation involves not only flying airplanes from place to place but also involves a highly trained ground organization and extensive maintenance, servicing and communications facilities . . .

"The effects of this policy are not confined to the financial protection offered, although this feature in itself is of great importance, inasmuch as the government's action in requisitioning airplanes and reducing schedules had the effect of greatly reducing, if not completely eliminating, any chance for profitable commercial operations. Much more important than this is the fact that this allows your company and other airlines to draw upon their accumulated experience, managerial ability and manpower to make a direct contribution to the country's war effort.

"The full story of our vital war contracts cannot now be told, but this part

of the company's operations far exceeds in volume its normal airline business and is growing rapidly.

"No additional financing was required during the year; \$242,500 was paid on previous bank loans, reducing the balance to \$142,500. This balance has been reduced to \$30,000 as of the date of this letter . . .

"Total operating revenue increased \$385,545 over the previous year due to gains of 14.6% in passenger revenue, 6.4% in mail revenue and 79.0% in express revenue. The increased passenger business was the result of selling a higher proportion of the seats available; the increased mail pay resulted from greater bonuses covering heavier mail loads; the increased express income came from much heavier carriage of air express.

"Operating expenses were higher, partly as the result of considerably increased business, but also by reason of higher salaries and wages, increased costs of materials and supplies and increased age of flying equipment. The increases were offset to some extent by the elimination of depreciation charges on airplanes disposed of during the year and some expense charged against war contracts.

Balance Sheet Reports: June 30, 1942, shows total assets of \$4,034,249. Current assets are \$2,737,149 including cash \$897,255, marketable securities \$25,000, accounts receivable \$1,508,873, inventories \$306,019. Current liabilities are \$1,668,734, including notes payable \$142,500, accounts payable \$1,050,253, accrued liabilities \$120,981, estimated Federal, state and Canadian taxes \$355,000. Capital stock \$1,359,200; paid-in surplus \$41,798; earned surplus \$875,848.

Revenue Report shows net income \$430,100. Operating Revenues \$4,923,454 including transportation; passengers \$2,663,126; mail \$1,971,213; express, freight, etc., \$209,137; repair and service, income and fees, rents, etc., \$79,976. Operating Expenses are \$4,522,991 including maintenance and repairs \$815,620; provision for depreciation and amortization \$461,587; compensation and expenses of aircraft crews, radio operators, superintendents, clerks, airport and hangar employees \$1,254,511; aircraft fuel and supplies \$493,181; insurance \$313,186; other transportation expenses \$550,552; administrative and general \$332,569. Other incomes and credits \$814,993; other deductions \$777,916; taxes on income, less prior years' adjustments, \$347,816.

Report Upholds C&S in \$26,000 Damage Suit

CAB Examiner Berdon M. Bell on Sept. 16 recommended that the complaint of Jack Adler against Chicago & Southern Air Lines for cancellation of a scheduled trip on Jan. 28, 1941, should be dismissed.

Adler was seeking damages of \$26,000, alleging that cancellation of the flight was unreasonable, improper and without justification. He claimed that the real reason for the cancellation, as well as other past cancellations of the company, was because there were not sufficient revenue passengers to justify making the flight.

The trip in question (trip 5) was scheduled to leave Chicago for St. Louis at 4 P.M. Also operated by C&S was trip 2, due from St. Louis at 3:25 P.M. The crew of trip 2 was to operate trip 5. Because trip 2 would be late, passengers were advised that trip 5 would leave 25-30 minutes late.

At 4:45 passengers were told trip 5 would depart, and requested to board the plane, where they remained 40-50 minutes. Flight 2 was unable to land until 5:13, at which time the pilot, after examining weather reports, decided not to permit trip 5 to depart. Passengers were assisted in obtaining other means of transportation, and Adler left on American Airlines at 7 P.M. C&S Captain Hoganson, after examining the 6:35 weather report, concluded that the flight could be operated safely, and it departed at 7:26 with one non-revenue passenger.

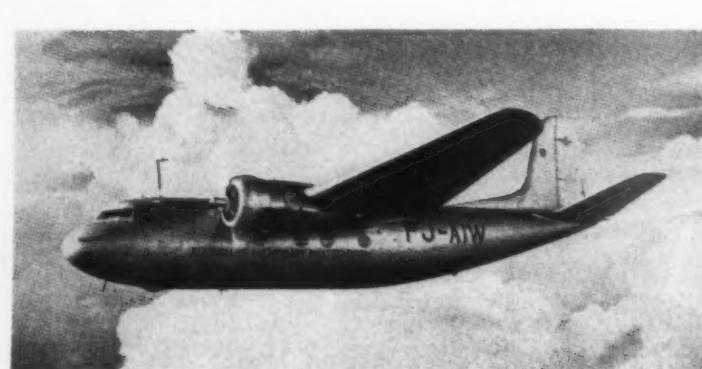
Experienced Pilot

"Capt. Hoganson," Bell said, "is an experienced pilot with 15 years' service, 8½ of which were with respondent, and he has had a normal amount of experience with ice. He was capable of making a reasonable and logical decision based on reasonable and logical grounds.

"It is believed that Capt. Hoganson postponed flight 5 because he considered it unsafe to attempt the flight at that time due to the probability of encountering an unfavorable icing conditions in coming down through the overcast at St. Louis, and because ceilings and visibility were near the minimums.

"It is further believed that the evidence of record relating to weather conditions substantiates the reasonableness of Capt. Hoganson's decision. By the same token, it is believed that he exercised the same degree of reasonableness in his decision to operate flight 5, and that the evidence of record substantiates the reasonableness of this decision."

Bell also concluded that "the evidence in support of complainant's allegation that flight 5, as well as other past flights of respondents, were canceled because of an insufficient number of passengers to justify operating the flights is not substantial and fails to establish the allegation."



Still Fighting: KLM pilots rescued some of their DC-5s from Java and are carrying on the fight against the Japanese by hauling freight for the United Nations in Australia.

Here in America, soon

FLEETS OF FLYING FREIGHTERS



★ From the ashes of war's destruction shall rise a greater mode of transportation — the "merchant aerine." Already the logistics of global warfare are requiring aerial armadas of military cargo-planes. When peace returns, they will have proved that flying freighters not only have greater speed and mobility, but also carry cargo at a low cost per ton-mile.

Aerols* enable these air leviathans to take-off and land with complete safety and efficiency. By cushioning the landing shock with hydraulic-pneumatic action they protect the plane,

crew, and cargo. Aerols are also used on all other kinds of war planes — from the fiercest fighters to the biggest bombers, on every terrain and in every climate. Thus Aerols serve the cause of Victory today. Tomorrow, they will render an even greater service when the skyways are filled with fleets of flying freighters.

THE CLEVELAND PNEUMATIC TOOL CO.
AIRCRAFT DIVISION . . . CLEVELAND, OHIO

Also Manufacturers of

Cleco pneumatic tools for the aircraft and general industry, Cleco sheetholders, Cle-Air shock absorbers for trucks and buses, and Cleveland rock drills for mining and construction work.



AEROLS

*THE SHOCK ABSORBING UNITS ON AN AIRPLANE'S LANDING GEAR; THE NAME IS DERIVED FROM THE WORDS "AIR" AND "OIL" — THE FLUIDS USED TO DISSIPATE THE LANDING SHOCKS

Ryan Urges Complete Federal Regulation of Air Transport

The navigable air space of the U. S., like its navigable waters, should be completely under the control of the federal government, Oswald Ryan, member of the Civil Aeronautics Board, told the Lawyer's Club of Atlanta, Ga., on Sept. 11.

Air transportation, he said, is a national problem and only a national law can adequately solve it. "If air transportation is national in character then it would seem to be an economic absurdity to subject it to the economic regulations of 48 different states," he contended.

However, he emphasized that the states have a vital contribution to make to the progress of aviation, but suggested that their function should be promotional and developmental rather than regulatory.

Up to the present time, Ryan explained, aviation has been treated as a national problem so far as regulations are concerned, both economic and safety. "I may add that while the jurisdiction asserted by Congress in the Civil Aeronautics Act . . . is substantially as broad as the Commerce Clause (of the Constitution) itself, giving to the . . . Board regulatory power not only over interstate air commerce but over all air navigation that directly affects or may endanger interstate air commerce, nevertheless the Board's jurisdiction over the economic phases of air transportation under the Act is not so broad.

"We clearly have the jurisdiction over the economics of the airlines so far as they engage in interstate air commerce, but it is very doubtful whether the Act confers upon this Board the power to regulate the economic aspects of intrastate air transportation even though it

may directly affect or burden interstate commerce.

"Now in view of the factual situation which exists in this field of transportation, I think it is reasonable to assume that there would be no question as to the constitutional power of Congress to assert a complete jurisdiction over the entire air transportation picture which can be anticipated in the post-war period.

"It is a well established fact that whenever intrastate and interstate transactions of a public service enterprise are so related that the regulation of one involves the control of the other, it is Congress and not the state that is authorized by the Constitution to prescribe the final and the dominant rule by which Congress is governed. That principle of constitutional law applies with special force to air transportation for here the intrastate operations of the air carriers are so intermingled with their interstate operations that the interstate operations cannot be effectively regulated unless both activities are brought within a single regulatory policy.

"These constitutional principles are well established by the many decisions under the Commerce Clause . . . But I believe there is another basis for the exercise of the congressional power over all air transportation; that is the analogy between the navigable air space of the U. S. and the navigable waters of the U. S. . .

"I submit that there is no distinction in principle between the navigable waters of this nation and the navigable air space of the nation. Both of them constitute highways over which commerce is carried or may be carried with other states or with other nations."



From UAL to USA: These United Air Lines employees now working for Uncle Sam gathered around the dinner table in Washington recently with W. A. Patterson, UAL president. From left around the table are: Col. Ray W. Ireland; Capt. O. C. Enge; Capt. Larry Avila; Walter Swan, executive assistant; Lt. Ray Dyer; Lt. L. D. Gardner; Lt. John C. O'Connor; Karl P. Hughes, UAL's Washington district traffic manager; Lt. Col. Maurice Sheahan; Lt. Col. J. R. Cunningham; Mr. Patterson; Lt. Bob Greenley; Major P. C. Sandretto; Lt. Tom Green; Lt. Fred Wiegel (Western Air Lines); Nat Groton, Civilian Air Transport; Lt. George Coffey; Lt. Comdr. Allan Bonnalis; Major Henry Harrison; Capt. James Rauen; Lt. Howard Moritz; Lt. William H. Moulton and J. A. Herlihy, executive vice-president.

AIRLINE COMMENTARY

CAB's plea for airline applications in the Caribbean area (see story elsewhere) came as somewhat of a surprise . . . Several such applications were already on file, and observers immediately wondered why they hadn't been acted on . . . They also wondered why CAB had waited this long to discover a serious transportation shortage in the Caribbean . . . This marked the first time that CAB has asked anyone to file an application . . . One high CAB spokesman went out of his way to emphasize that all applications would be considered on a temporary basis only . . .

If anyone has any doubt as to the tremendous part the airlines are playing in the war effort, let him read Northwest Airlines' financial report elsewhere in this issue . . . The company, which had only 881 employees 10 months ago, now has over 3,600, and plans an expansion to 8,000 or 10,000 . . . With other airlines increasing proportionately for war work, think of what this will mean in terms of qualified personnel for post-war expansion . . .

One airline recently had a 100% load factor for a whole week on one of its divisions . . . This means that every bit of payload was utilized—something unheard of not so long ago . . . The airline hasn't released any publicity on this achievement . . . They say it scares away business . . .

One of the current and most interesting topics of the day is the amount of express being hauled by the airlines . . . Loads are exceeding all expectations . . . For example, one airline is assigning its air mail-express-freight department an average of seven seats on all westbound flights out of one city . . . This, of course, is in addition to the space in the regular cargo compartments . . . Even with this, however, there is sometimes as much as 4,000 lbs. of express that cannot be carried on some trips, and almost all of it is from war plants . . . This express generally gets moved within a 24-hour period, but nevertheless there is a delay . . . This all adds up to the fact that the airlines need more planes to do an adequate job of moving cargo expeditiously . . .

Local draft boards are getting tougher about granting deferments, airline officials report . . . The fact that the boards seem to have no consistent policy is irksome, they add . . . In general, the airlines have been able to keep essential personnel, however . . .

As predicted in this column Sept. 1, the Civil Aeronautics Board intends to take action on pending applications for new routes . . . In all probability, the Denver-Kansas City case (involving TWA, United, Continental and Braniff) and the so-called Texas cases (TWA, Continental, Braniff and Essair) will be acted upon first, because more work has been done on them than on the others that are pending . . . However, others might be completed first if the military services applied pressure for a particular route . . . For instance, among those pending is New Orleans-Guatemala . . .

Post Office officials informally estimate that air mail loads are still running 40% ahead of last year . . . And this with a lot less airplanes . . . Mail is sometimes delayed on heavy priority trips, but in general P. O. officials are satisfied . . . They are also pleased with the way the single-engined routes are working out . . .

There were still no hints—at least not as this issue went to press—as to who would be selected to fill CAB Member George Baker's place . . . His successor will fill out Baker's terms, which expires Dec. 31, 1943 . . . For the record, here are the expiration terms of the other members' terms, as furnished by CAB: Welch Pogue, Dec. 31, 1947 (as chairman, Dec. 31, 1942); E. P. Warner, Dec. 31, 1946; Harilee Branch, Dec. 31, 1944, and Oswald Ryan, Dec. 31, 1942 . . .

E. B.

New Panagra Extension

A new extension from Antofagasta to Salta has been announced by Pan American-Grace Airways, which states that the route "will establish air service for a mining area vital to the war effort of the hemisphere."

Examiners Commissioned
Alfred Forster and John Belt, examiners for the Civil Aeronautics Board, have been commissioned as lieutenants in the Navy.

Northwest Airlines carried 7,806 revenue passengers during July. Revenue passenger miles totaled 4,072,520.

... On Alert!



CONTINUOUS SHELL ACCUMULATORS

Latest achievement of Bendix Aviation, Ltd., engineers is this continuous shell hydraulic accumulator, already specified on several of America's new, spectacular airplanes soon to be announced. It is lighter...meets new AN specifications and, like other Bendix Aviation, Ltd., equipment, its simplicity assures fast volume manufacture. The 5" and 7½" size are now going into production for volume deliveries during 1943, and Bendix has the capacity to meet your requirements.

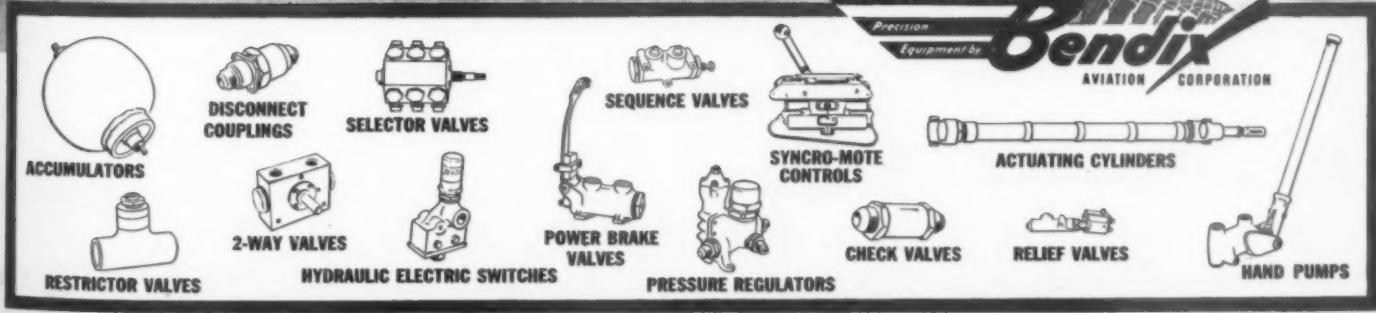
BENDIX AVIATION, LTD. HYDRAULIC EQUIPMENT

From Alaska to the steaming tropics American fighting planes, by increasing thousands, are "on alert"...ready and highly competent to beat the enemy at his own game.

Ready, too, as an integral part of these airplanes are the hydraulic controls by Bendix Aviation, Ltd., which make up our part of the Invisible Crew that is flying aboard virtually every fighting plane built in the United States.

On the Lockheed P-38, for example, are a number of Bendix Aviation, Ltd., hydraulic units—each one built to the Bendix standard—designed for production as well as for performance.

BENDIX *North Hollywood*
SUBSIDIARY OF BENDIX AVIATION CORPORATION



TRANSPORT

Airline Personnel



Winters



King



Swain



Harris



Hampel



Vierling



Walsh



Rice

Sales and Traffic

H. W. "Huck" Longfellow, manager of United's foreign and agency department, has been commissioned a major in the Army Air Forces, assigned to Gen. Eisenhower's staff in London.

Guy W. Talbot, Jr., former district traffic manager for Western Air Lines at Long Beach, has been promoted to regional traffic manager for Montana and Canada, headquartered at Great Falls. **Arthur L. Hewitt** has been named Los Angeles city traffic manager and **Counselaire Connie Peterson** has been placed in charge of the Butte traffic office. **Peggy Cox**, formerly in San Diego, has taken over the Long Beach office. New additions to the company's Los Angeles traffic staff include **William Burch**, **Elaine Mikalon** and **Margaret Rice**.

Eve Freeman has been appointed San Diego traffic manager for TWA. The new office headed by Miss Freeman is at 336 C Street in San Diego. Before joining the company she had had 15 years experience as an American Express company executive.

Promotions in TWA's New York office include: **Eleanor Hayner**, who has been a reservations representative, advanced to head of the reservations department; **Lillian Brown** and **Larion Lavine**, reservations representatives, named traffic representatives.

J. A. Thomas, former central traffic manager for TWA in Chicago, is now a lieutenant (senior grade) in the Naval Air Transport Service, stationed in Miami.

Max Tegerdine, TWA passenger relations manager in Chicago, has been promoted to the post of station manager at Burbank, succeeding **Bill Lunceford**, who has joined the Air Transport Command.

Willis Camp, who for two years had charge of United's Sacramento office, has become district traffic manager for the company at Seattle during the absence of **C. J. Middleton**, now a captain in charge of the Seattle regional priorities office of the Air Priorities Division, Air Transport Command. Succeeding Camp at Sacramento is **Jack Misselhorn**, who had charge of United's Spokane office for two years. His place at Spokane is taken by **Mary Hoyt** as acting traffic representative. **William R. Patrick** has become district traffic manager for the company at San Diego, handling the duties of **W. A. Glassford** during the latter's service as a lieutenant (j.g.) in the Navy.

Arthur L. Hewitt, formerly manager of Western's agency department, has been named city traffic manager for Los Angeles.

Operations

Jack O'Brien has been named superintendent of flight operations for United's Pacific division. **Paul Reeder** has been appointed superintendent of flight operations for the western operations division. **S. V. Hall**, vice president—western and Pacific operations, has announced that Ted



Hayner



Misselhorn



Camp



Minser

Johnson will be his assistant for duties connected solely with Pacific operations and that **O. C. Richerson** will assume active supervision over all matters pertaining to western operations in conjunction with Hall's office.

Western Air Lines has promoted three veteran pilots to the position of division chief pilots. They are: **M. A. Wooster**, southern division; **A. S. Mooney, Jr.**, central division, and **L. D. Carlson**, northern division.

William A. Lippman, formerly in Western's Los Angeles traffic department, has been named head of the company's express and freight department.

TWA Pilot **George Rice** has been named system chief pilot, succeeding **W. G. Golen**, transferred to special duties. Pilot **Jack Walsh** takes over Rice's former position of Pacific division chief pilot.

Don J. King has been named superintendent of Northwest's eastern division, and will also serve as the company's chief pilot. He was a member of NWA's pilot corps for nearly six years and was a former lieutenant in the Marine Air Corps.

B. J. Vierling, Pennsylvania-Central's chief engineer, has been named superintendent of maintenance for the company.

American Airlines has made the following appointments: **Frank A. Ware**, superintendent of military maintenance; **M. G. Beard**, chief military engineering pilot; **A. W. Regan**, superintendent of military communications; **N. B. Ison**, superintendent of training-military; **E. A. Austen**, superintendent of Navy pilot training; **R. W. Fischer**, special duties in connection with ground operations. **Gage Mace**, formerly assistant to the vice president—operations, has been appointed superintendent of flight operations. **T. J. Healey** is supervisor of line maintenance, relieving Frank Ware.

Edward J. Minser, TWA's chief meteorologist, now heads the meteorology department of the company's Intercontinental Division. Succeeding Minser is **Glen A. Hollingsworth**, former meteorologist in charge at the Kansas City base. **Donald F. Hawley** succeeds Hollingsworth.

Roy E. Spengler, TWA's maintenance foreman at San Francisco, has also been transferred to the Intercontinental Division. **F. A. Vieth**, inspector at San Francisco, succeeds him.

Miscellaneous

Harold R. Harris, senior vice president of Pan American-Grace, has resigned to become a colonel in the Army of the United States, to be stationed in Washington as the plans officer on the staff of the commanding general of the Air Transport Command.

Robert S. Swain has been named vice president, treasurer and a director of Northeast Airlines. He was formerly vice president of Lee Higginson Corp.

Linus C. Grotzbach, former regional director of Federal Works Agency for seven mid-west states, has been named assistant to Croll Hunter, president of Northwest. He will have charge of personnel administration.

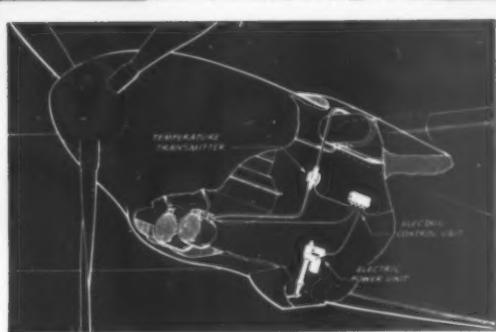
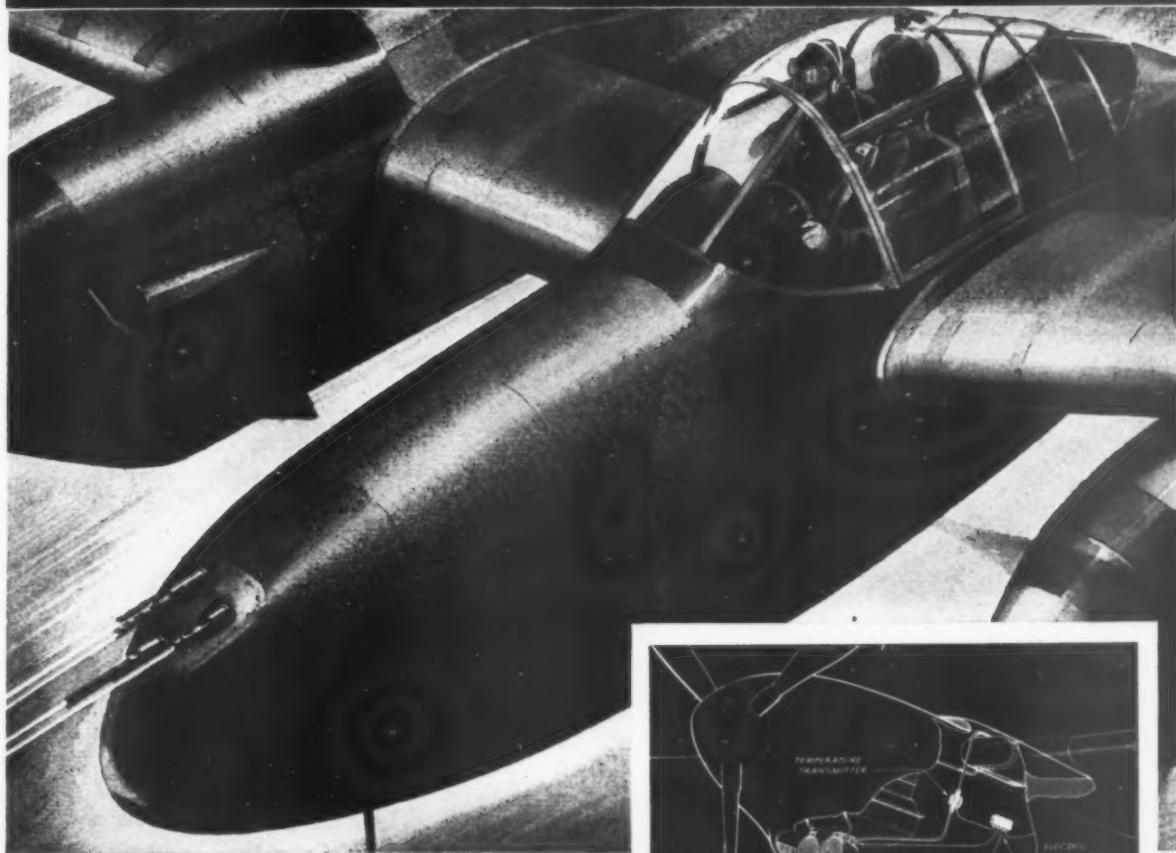
D. B. Wallace has been appointed assistant to the vice president and general manager of Canadian Pacific Air Lines.

L. F. Hampel, until recently assistant professor of statistics and finance at the University of Akron, has joined United Air Lines as an economist in the company's market and economic research department.

Mildred (Midge) Winters has been named director of Western's news bureau, succeeding **Peggy Guetter**, who resigned following her recent marriage. Miss Winters formerly was assistant manager of TWA's western region news bureau.

Alice Severance, United's senior stewardess, has been named technical assistant in the company's Chicago medical center.

To help him concentrate on gunfire...



Exit Flaps now Automatically Controlled!

Now, with Automatic Exit Flap Control ready to "take over," our fighter pilots will be freed from considerable instrument watching.

The AiResearch *Automatic Exit Flap Control System* — developed by

our engineers in cooperation with other aircraft engineers — will give our pilots several advantages.

This new control system forestalls congealing. It cuts open-flap time... on many planes this can mean from

10 to 20 extra miles speed per hour.

Extremely light in weight, simple in design and electrically powered, AiResearch Automatic Exit Flap Controls are made with standard aircraft parts... operate without capillary tubes, sylphon bellows, electronic circuits or sensitive relays.

Adaptable, the system operates on 24 volt D. C. supply and may be used on every type of airplane — with intercoolers, liquid coolant radiators and engine oil coolers.

Successful flight-tests recently completed have proven the reliability and safety of this system. Volume production is now under way. Aircraft manufacturers may write or wire for details.



"Where Controlled Air Does The Job" • Automatic Exit Flap Control Systems • Prestone Radiators
Engine Oil Cooling Systems • Engine Air Intercoolers • Supercharger Aftercooling Systems



Franklin

FRANKLIN ENGINES GO TO WAR!

To the thousands of fighter pilots and pilot instructors who received their first training in a Franklin-powered plane, it will be welcome news that Franklin engines are going to war!

Today and for the duration, Aircooled Motors Corporation and its employees have but one aim: ever-increasing production of new aircraft engines developed by Franklin engineers for the Army Air Forces and the Bureau of Aeronautics, U. S. Navy.

These Franklin military and naval engines are destined to prove themselves brilliant successors to the peacetime Franklins . . . the engines that are now doing such valiant service in the CPT and CAP programs.

For both the old and the new are products of the same unique engineering skill, based on 42 years experience building ever-finer air-cooled engines.

**AIRCOOLED MOTORS CORPORATION
SYRACUSE, N. Y.**



Subcontracting

Above — Assembly lines of all-metal AT-11 twin-engine Beechcraft bomber trainers

It obviously would be impossible for the little machine shop shown here to feed the necessary parts to the many Beechcraft assembly lines, some of which are not shown here.



Beechcraft's Machine Shop

Below — Assembly lines of plywood AT-10 twin-engine Beechcraft trainers

More than 2 years ago Beechcraft initiated an extensive subcontracting program which absorbed the impact of priorities on the normal business of scores of machine shops. Loyal, hardworking subcontractors now are devoting to Beechcraft's business an aggregate floor area that exceeds the total productive area of the Beechcraft factory. This has made possible the release of new machine tools to others and has prevented the dislocation by war conditions of many well-managed enterprises.

Beechcraft's experience is that properly directed subcontracting is a flexible and efficient way to increase output.

Beech Aircraft

BEECHCRAFTS ARE DOING THEIR PART



C O R P O R A T I O N
WICHITA, KANSAS, U.S.A.



Now...

The PIPER TG-8

Training Glider
for the U. S. Army



*The new Piper TG-8
is another of the
famous CUB line.*

PIPER airplanes for years have played a most prominent role in training pilots for America. Now . . . with the new Piper TG-8 Training Glider, this famous Piper tradition is extended to include the training of glider pilots for the Army.

This new glider is in reality a conversion of the standard Piper Cub Trainer . . . America's most popular training plane. The wings and tail assembly are unchanged . . . giving the same safe, dependable flight characteristics that make the Piper Cub Trainer the choice of experienced instructors the country over.

The removal of the engine and extension of the fuselage to accommodate a third person, the addition of triple controls and brakes and the revision of the landing gear produce a most air-worthy and maneuverable glider . . . as has been proved by numerous test glides under Army-CAA supervision.

Thus Piper, famous for pointing the way to wings for all America, now points the way to silent wings for Uncle Sam's airmen.

PIPER AIRCRAFT CORPORATION
LOCK HAVEN, PENNA.

ONE-THIRD OF ALL THE REGISTERED PLANES IN THE U.S. ARE PIPERS

have an
the year
travel
Nassau
The P
in Pan
very eff
ment an
substant
Mr. Bur
"In th
air tour
at a res
ourage
travel.
that air
parks in
Large
seasonal
ever, b
from no
one adv
would en
dependent
A rise
South be
Until the
man's pa
travel.
lines. I
accounted
2% of
traffic.

C

**DAR
LONG**

XUM

S. A. Air Service

(Continued from page 38)

have an even traffic flow throughout the year except on the heavy tourist travel routes into Havana and Nassau from Miami.

"The present lack of fluctuations in Pan American's traffic permits very efficient utilization of equipment and consequently contributes substantially to economic operation," Mr. Burden finds.

"In the future, however, a large tourist movement may develop as a result of the campaign to encourage inter-American pleasure travel. If it does, we can expect that air traffic will also show large peaks in the winter months."

Large airlines could meet this seasonal demand efficiently, however, by transferring equipment from northern operations. This is an advantage which a large airline would enjoy over a number of independent smaller companies.

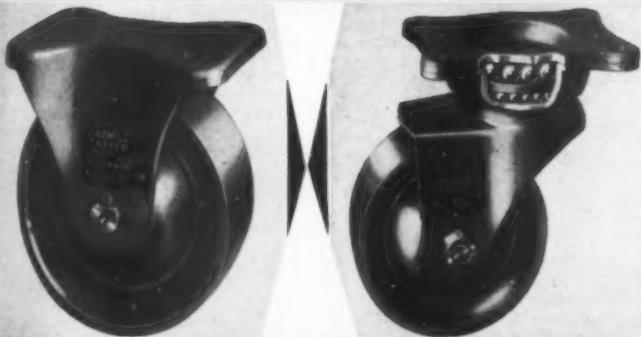
A rise in tourist travel to the South became apparent about 1940. Until then about 90% of Pan American's passenger traffic was business travel, against 80% on domestic lines. In 1940, however, tourists accounted for probably more than 30% of that year's Latin American traffic.

Probably the most essential improvements which must be made in the future include construction of complete airway facilities, since the report points out that air transportation in Latin America in the past has been "considerably more dangerous" than in the U. S. The safest line flew only about a third as many miles per fatal accidents as the U. S. domestic lines in comparable periods. With better airways facilities it should be possible to capitalize on the advantages of better weather conditions.

Sturges Named

Paul G. Sturges has been named director of public relations and advertising for Southwest Airways, Inc., according to Leland Hayward, president. Sturges formerly was an account executive in the Los Angeles office of McCann-Erickson, national advertising. Activities at four Arizona training centers—Thunderbird Field, said to be the largest primary school in the U. S. Thunderbird II, a new school; Falcon Field, an RAF school, and Sky Harbor—will come under his department.

DARNELL CASTERS & WHEELS



DARNELL CORP. LTD., 60 WALKER ST. NEW YORK, N.Y.
LONG BEACH, CALIFORNIA, 36 N. CLINTON, CHICAGO, ILL.

Write...
FOR NEW
DARNELL
MANUAL

Another
EXHAUST SYSTEM
by AIRCRAFT COMPONENTS, Inc.
for a famous line of fighting planes



Whether it is a set of short stacks—like those used on the Martin 187—or a complex system of collector ring and muff, tail pipe and shroud...

**LET AIRCRAFT COMPONENTS, INC.
DESIGN, ENGINEER, BUILD AND
SERVICE the entire system**



**AIRCRAFT
COMPONENTS, Inc.**

VAN NUYS, CALIFORNIA ★ WICHITA, KANSAS

Specialist designers and manufacturers of manifold exhaust systems, including cowl wells, muffs, air scoops, supercharger housings, for leading prime contractors...Also other stainless steel portions of engine nacelles.

Mass Production to Change Maintenance

Streamlined Procedures Will be Necessary in Post-War Period, Writer Predicts

By E. J. FOLEY

The accent today on large-scale aircraft manufacture and vital air transport is the handwriting on the wall for our airlines. In the tomorrow of mass commercial airline traffic, maintenance must be geared to a high-speed manufacturing effort and a vigorous operating technique.

World War II is proving to us that mass production of cargo, if not combat, aircraft in thousands per month creates only a storage problem if we're up to our necks in maintaining hundreds per month.

The peace to come will prove to us the existence of that same storage problem in global commercial air transport on undreamed-of scale, but only if we fail to streamline our maintenance to match the new order

and scope of our networks and to meet the finely drawn lines of competitive activity.

Manpower in aircraft maintenance is a vital factor; as it must be in any field of endeavor. But manpower is

not maintenance. Recent entrants into the field of air transport have already learned that.

Ignoring manpower, a subject that is adequately treated in these times of supertraining, we know airline maintenance to be a most elusive science, overloaded with indeterminates and variables, resentful of integration. Inconsiderate secondary design of the aircraft, temperamental "accessories," operating personnel, the possibility of accident and the weather—singly or in manifold combinations—can deflect our efforts. By their imposition, our progress toward mass maintenance is made on "up-two-jumps back-one" movement, or as all of us will attest, on occasions, "back three."

In a consideration of maintenance, which we hope may be productive of many trends of thought for the future, we are dealing with some half dozen factors.

The first element is the aircraft itself as an operable entity. It is generally conceded that current cargo craft offer no maintenance panacea. Yet, in the light of conversion possibilities, they may be the airliners of the immediate post-war period. Certain groups have hope that several designs now in mockup may, under the surveillance of a consulting or "insulting" air transport operator, offer more in the way of accessibility, one key to mass maintenance.

Two extremes of accessibility may be noted in present designs. In one, to get at the top or bottom engine cylinders requires a can opener of



E. J. Foley

appreciable dimensions or a major disassembly. In another, inadvertent accessibility to fuel is offered through integral wing tank seams on every landing.

A sound maxim for secondary design from the standpoint of accessibility is readily phrased. "Unless you know a part to be perfectly trouble-free for the life of the aircraft, don't put it where it can't even be seen, let alone removed."

Design development has taken us through the stages of the wires and struts to the "clean" full cantilever that characterizes all transport aircraft. The need for "cleanliness" of design you may say has been fulfilled. We agree—so long as you look at the aircraft from the outside.

Must Fly Often

The airline operator has no quarrel with cleanliness as far as it has been carried. But if he is to realize to the fullest the aerodynamic efficiency offered, he must fly the aircraft every hour possible. The manufacturer dictates the "possible hours" to a certain extent by the internal cleanliness he builds into his product. This applies to all manufacturers who contribute to the project. Whether you make the airframe, the fuel pump, the engine or the bell crank bearings, your product is a potential maintenance problem to the airline operator.

Safety, simplicity, serviceability of design, general accessibility and adequacy of information on all parts of the product—these are contributions to mass maintenance that aircraft manufacturers and their suppliers must make in the months to come.

May we offer a suggestion to all manufacturers, old line or new. The day of the "this is it, take it or leave it" attitude in aircraft and parts design, manufacture and sale is over. Unless the aircraft to which you are offering your men, time and materials is a one-way, one-trip model, remember the air transport operator who buys it: (1) may have to re-do everything you did in building, and not only once; (2) ought to see everything you did in building periodically (with the few obvious exceptions); (3) ought to know everything you had to know to build.

If these "oughts" are practical simple realities in an air aircraft design, that manufacturer will have gone far toward fulfilling his maintenance obligation.

The basic technique of maintenance to be employed is the second factor to be considered. Second in

importance, perhaps, but until the perfect maintenance airplane is achieved, first in actual application.

Presently there are two schools of thought on this basic technique: periodic overhaul and continuous overhaul.

Periodic overhaul assumes the regular withdrawal from service of each operating aircraft for a major disassembly overhaul. Accordingly, space aircraft in number proportional to the fleet size are required to provide service continuity. By the use of this technique intermediate services may be shortened appreciably in anticipation of the major overhaul.

Continuous Overhaul

Continuous overhaul, which enjoys a more limited patronage among current air transport operators, is accomplished without any major disassembly overhaul for the entire life of the aircraft, except in the case of an accident or the like.

It is effected by dividing the aircraft proper into three such sections as fuselage, wing and tail. Then the prescribed "heavy" airplane service (synonymous with the "long" airplane service and its time limits as indicated in the operating specs) must be supplemented with fuselage, wing and tail services. These must be especially thorough since their function is preventive by nature. The theory behind the technique is that continuous preventive, anticipatory maintenance by keeping ahead of trouble can eliminate the need for overhaul, as such.

A development that can offer much to continuous overhaul as an air transport maintenance technique should be an outgrowth of aircraft mass production for the military. It is strict, simple interchangeability of components—interchangeability between aircraft of the same type and interchangeability within the aircraft.

Flexibility

Such flexibility especially with regard to control surfaces can break a potential bottleneck in continuous maintenance by permitting a change of surfaces and the like when "heavy servicing" is required. Similarly, nacelle interchangeability combined with quick-change features—bulk-head connectors for tubing, multiple wire electrical disconnects, etc.—offers dead time reduction possibilities for routine or emergency engine changes. If carried further we might be able to economically justify the removal of nacelles for anything more than light engine servicing and the installation of a fresh assembly allowing service on the used part to be accomplished after the aircraft departure.

We hold no brief for continuous overhaul as the Utopia of air transport. Comparative data, cost and time, are not immediately available. While theoretically no aircraft are required "in the hole" as spares for overhaul, the ratio of fleet size to

tons carried per unit time does not fully reflect this saving. The fact that intermediate services are more time-consuming for continuous overhaul ups the number of aircraft needed.

Then, too, the spare-component angle is accented in "continuous." The capital investment in this material must have a bearing on our considerations.

However, opposing the spare investment, we encounter the economy of lengthened life of all parts and a reduction of scrap. It is logical to assume that parts, accessories and assemblies attended in great detail at comparatively frequent intervals will last longer than the same parts which, due to schedule pressure, are maintained in a simply airworthy condition until the 3000 or 3500 hour overhaul.

This point is little less important to economic operation in normal peace time than it is in these wartime days of conservation.

Watch Congestion

A final factor which may spell the doom of the periodic overhaul technique is congestion. As fleet sizes grow with the development of air transport, the possibility of 50% or more of the aircraft coming due for overhaul at one time becomes more likely. To handle such a jam would be super-extravagant from an angle—space, men and equipment. Since we cannot arbitrarily extend the time between overhauls, the only solution would be to advance most of the ships due and before we knew it, we would have some overhauls coming up at 1000 hours or less. This is hardly an improvement in economy over the attempt to handle all at once.

From the foregoing, we give the "nod" to continuous overhaul over periodic overhaul as the presently superior technique for air transport maintenance. How, then, shall we improve "continuous" to assure meeting the demand for maintenance time economies?

Maintenance decentralization with the application of the continuous technique we feel to be a sound practical answer, if only one or several. By decentralization, we conceive the reduction to an absolute minimum of maintenance on the airplane; the further development of specialist-mechanics in the various phases of aircraft maintenance; the extended application of the "change-to-repair" theory and the expansion of specially equipped "production maintenance shops."

Design details, one of which is mentioned above, now become more vital elements in our plan of attack. Interchangeability, wide application of quick-disconnect principle and serviceable simplicity in all attachments.

These points achieved, our plan of maintenance attack runs somewhat as follows. Maintenance planning is not unlike production planning, set

(Turn to page 51)

Light

Precision
W. Charl
veloped a
struction
which is
in corros
bins, ava
cations
ket and
smaller
gauge an
cording t
Cellul
bination
paper ev
flanges.
of cellul
a die to
press-fit
form a sp
of the fi
with cell
ting, the
Scia

A radi
now be
Bros. 49
stationary
equipped
and open
phase A
ter supp
pressure
air supp
reached
represent
circle. T
copper b
length of
mits thin
New Bl

The P
Manufact
Conn, p
designed
considera
encounte
equipment

The u
7500 RPF
type wh
horsepow
ness and
offer ap
made of
resistant

**Light Coil Winding
Bobbin Developed**

Precision Paper Tube Co., 2033 W. Charleston St., Chicago, has developed a coil-winding bobbin construction utilizing cellulose acetate which is said to provide a new high in corrosion resistance. These bobbins, available in any shape—round, square, rectangular, or to fit specifications—are the lightest on the market and their space saving permits smaller coils with the same wire gauge and numbers of turns, according to the manufacturer.

Cellulose acetate is used in combination with the spiral wound fish paper core and vulcanized fibre flanges. Spiral wound laminations of cellulose acetate are made over a die to the core O.D. and then press-fit slipped over the core to form a spacing tube. The inside faces of the fibre flanges are laminated with cellulose acetate before diecutting, the core then swaged, locking them in place on the core.

Sciaky Spot-Welder

A radial-type gun spot-welder is now being marketed by Sciaky Bros., 4915 W. 67th St., Chicago, in stationary and portable units. Designated as P-1-R, the welder is equipped with a special Sciaky timer and operates on 220 or 440 single phase A.C. A hydropneumatic booster supplies a maximum electrode pressure of 1800 lbs. with 90 p.s.i. air supply. The maximum area reached by the stationary model is represented by a 21 foot diameter circle. The use of fixed heavy copper bars (water-cooled) in the length of the secondary circuit permits thin flexible secondary cables.

**New Blower Designed
for Restricted Space**

The Blower Division of L-R Manufacturing Co., Torrington, Conn., presents their No. 2 Blower designed to meet the restricted space considerations and high temperatures encountered in air-borne electronic equipment.



The unit produces 60 c.f.m. at 7500 RPM with a 2" diameter turbo type wheel operating from a 1/100 horsepower motor, and its compactness and flexibility would appear to offer applications other than the above-mentioned. The housing is made of high-impact plastic, heat resistant to 375°F.

Maintenance

(Continued from page 50)

us up to maintain periodically each section of our aircraft (wing, fuselage and empennage), also instruments, powerplant, etc. Based upon schedule routing, this planning ideally allows us to anticipate all of our moves. In fact, this phase of our work is only a more comprehensive application of the current maintenance scheduling.

Let's take a specific example to speed our illustration. Planning advises us that NC-69 will be in tonight with valve stem cleaning required on numbers 2 and 6 engines, recovering and probable rib rivet replacement on the left aileron, a faulty turn and bank on the pilot's panel, and a rate of climb on the same panel operative but due for an "overhaul" inspection at least.

Any of these items except the rate of climb change could probably be accomplished on the airplane in a reasonable length of time. But there are potential hazards. If we go at the stem cleaning with the engines in place, we may run into warped valves, which means changes and extension of time required.

If we peel the aileron while it is mounted, we may find "working" hinge fittings plus twice the expected metal work. Again delay. Will Jones fixes the turn and bank, but the expediency of this repair results in temporary success and next time in we have to pull it.

On the basis of our planned "continuous" what do we do? The engine assembly group, advised of plans, moves two of our quick disconnect nacelles fully built up (engine, accessories, etc.) in portable jigs into NC-69's spot. Two empty jigs accompany to accept the removed units. The quick change is made and the maintenance on the defective engines is done in the shop possibly days after NC-69 is back in service.

Airplane servicing shop supplies a newly covered, completely checked out left aileron and we again change for subsequent service.

An entire pilot's instrument panel complete with electrical and pressure manifolds and installed with simple twist type fasteners makes it expedient to change the panel to get at the instruments due attention. This technique, particularly helpful in emergency, minimizes the possibility of such complications as wires breaking, instrument glasses being cracked, etc. We understand that "Doc" Anderson, Chicago and Southern's Superintendent of Engineering, has had an excellent version of such a panel in use on his DC-3's for more than a year.

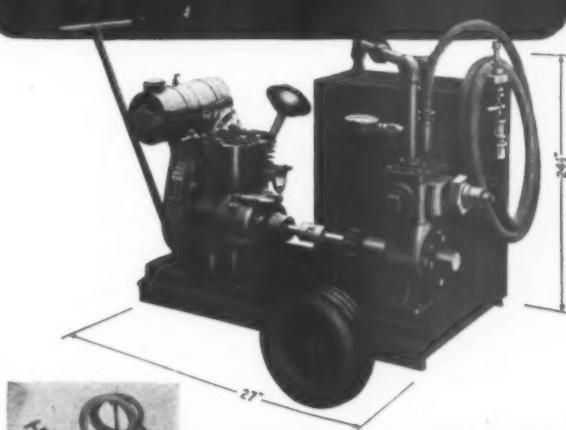
Fundamentally, then, our technique is one of rotating all possible components on a continuous overhauling basis and servicing away from the airplane. As mentioned previously, our shops may have to be larger, more comprehensive in

(Turn to page 59)

PACIFIC AIRMOTIVE

AIRCRAFT ENGINE

PRE-OILERS



Among other pumps available is this portable electric driven transfer unit.



This transfer pump with gasoline power is supplied with convenient handles.



Field unit for pumping and metering heavy lubricant from factory sealed drums.

**NEW LIGHT WEIGHT UNIT
HANDLES ALL PRESSURES**

Pacific Airmotive announces this new compact engine pre-oiling unit for quick, one-man servicing of new and reconditioned engines, or for other portable pump operations.

Built by Harman Rotary Pump Co. to meet both military requirements and the recommendations of engine manufacturers, the unit is equipped with a Standard Harman Rotary Pump capable of maintaining adequate pressures. A by-pass in the pump is adjustable to any desired pressure. Power is supplied by a 1 1/2 H. P. gasoline engine. The unit is equipped with a demountable six gallon welded steel storage tank. Rubber tires or steel wheels are optional.

Wire or write Pacific Airmotive today regarding your pumping problems. As suppliers of all types of pumping equipment to the aviation industry and to the Army and Navy we can supply any standard or special application to meet your requirements.

Write or wire today for Pacific Airmotive service equipment fully illustrating and describing (1) Starter Test Bench, (2) Complete Propeller Service Equipment, and (3) Engine Overhaul Equipment.



PACIFIC AIRMOTIVE

Division of Airplane Manufacturing & Supply Corp.
Aviation's Largest Maintenance & Supply Company

BURBANK - CALIFORNIA

MANUFACTURING

Army, Navy Ban All Enlistees Called Key Men in War Industry

CIVILIANS occupying key positions in specified war industries will not be accepted for commission or enlistment without written release from the industry concerned, the War and Navy Departments announced in a joint statement Sept. 11.

The enumerated industries include not only the manufacturers of aircraft and aircraft engines, but also plants producing gliders, propellers, accessories, parts, and the like. In the same statement, the Services brought important men and women in Federal agencies under similar policy.

These key civilians include executives, heads of major divisions or departments and principal subdivisions," the agencies declared, as well as "technical experts whose principal duties involve design, planning or research.

"In the case of civilian employees of Federal agencies and the listed war industries whose jobs are outside these executive and technical expert categories, a release from the local Selective Service Board will be required before acceptance for enlistment or commission, if the applicant is a Selective Service registrant. If a disagreement occurs between the local Board and the industry concerned, appeal may be taken under Selective Service regulations. If the applicant in this group is not a classified Selective Service registrant, decision as to whether he may be accepted for commission or enlistment without a release from the head of the agency or war industry

will depend upon the merits of the individual case. In the event of disapproval by the head of the agency or industry, the final decision will rest with a committee appointed by the Joint Army and Navy Personnel Board."

Another basic policy set forth in the joint statement is that, except in furtherance of definite mobilization plans, no personnel other than students in recognized institutions will be commissioned or enlisted and then be permitted to remain on an active status, keeping their civilian employment.

The list of essential activities which was issued in connection with the statement of policy on the enlisting and commissioning of civilians was prepared by the United States Employment Service, pursuant to the first directive issued by the War Manpower Commission, and after consultation with representatives of the War Production Board, the Department of Agriculture, and other departments and agencies, as well as the War Department and the Navy Department.

The list is also to be used as a guide by the local Selective Service Boards in connection with problems of occupational deferment, and by U.S.E.S. in determining which types of activities should be regarded as having prior claim to the workers available for referral to job openings. The War and Navy Department policies on the appointment and commissioning of civilians will apply to any revisions of this list that may be approved by the War Manpower Commission or the Selective Service System.

The governmental services included in the list are defined as those necessary for the maintenance of health, safety, and morale, and the prosecution of the war.

Following is a summary of activities listed as essential:

Production of air craft and parts: The production, maintenance and repair of aircraft gliders, parachutes, dirigibles, balloons, aircraft engines, parts, pontoons, propellers, and similar products.

Production of ordnance and accessories: The production, repair, and maintenance of firearms, guns, howitzers, gun turrets, mortars, mounts, tanks, sighting and fire-control equipment, torpedo tubes and similar products.

Production of ammunition: Bombs, mines, torpedoes, grenades, chemical-warfare projectiles, explosives, fuses, pyrotechnics, as well as products such as glycerine which go into the manufacture of ammunition.

Construction: Construction of approved industrial plants, houses, hospitals, and military projects and repair of such facilities; and services necessary to complete such construction.

Metal mining: The mining of iron, copper, lead, zinc, aluminum, mercury, manganese, chromium, molybdenum, tungsten, vanadium and similar ores, and in the dressing of such ores.

Smelting, refining, and rolling of metals: Primary and secondary smelting and refining, alloying, rolling, and drawing of iron, steel, copper, lead, zinc, magnesium, aluminum, brass, bronze, nickel, tin, cadmium, and any other metals used in the production of war materials.

Production of metal shapes and forgings: The manufacture of castings, die castings, forgings, wire, nails, chains, anchors, axles, pipe, springs, screws, tubing, stampings, pressings, and structural shapes.

Finishing of metal products: Enameling, jappanning, lacquering, painting, and galvanizing essential metal products.

Production of industrial and agricultural equipment: Power boilers; wiring devices and supplies; agricultural implements; electric lamps; storage and primary batteries; pumps, compressors, and pumping equipment; recording, controlling and measuring instruments and meters; conveyors; industrial cars and trucks; blowers, exhaust and ventilating fans; mechanical power-transmission equipment such as clutches, drives and shaft; mechanical stokers; tools, files, and saws; plumbers' supplies; professional and scientific instruments; photographic apparatus, and optical goods; and all equipment necessary to operate plants producing essential commodities.

Production of machinery: Engines and turbines; machine tools, equipment and accessories, electrical generating, distribution and industrial apparatus for electric public utility, manufacturing, mining, transportation and construction use, for incorporation in manufactured products, or for use in service industries; construction, mining, agricultural, oil field, smelting and refining, as well as all machinery necessary to produce, equip and maintain aircraft, ships, ordnance and other military material.

Production of chemicals and allied products: Glycerine; turpentine, resin and other naval stores; wood tars, oils, acids, and alcohols; lubricating oils and greases; animal and vegetable oils; fertilizers; tanning materials; salts; synthetic rubber; primary coal-tar products; plastics; compressed and liquefied gases; refined sulphur; sulphuric acid and other acids; caustic and other

Ryan vs. Zero

Ryan seaplanes used as trainers at Soerabaja, Dutch East Indies, were often able to outmaneuver the Japanese Zero, say pilots who have returned from the Pacific war zone. Flyers were sent up in the Ryans to watch for attacking Japanese, and were frequently obliged to engage in dogfights (one-sided, because they had no guns) before being able to return to base.

sodas; industrial alcohols; electrochemical and electrometallurgical products such as carbide; sodium and potassium metals and high-percentage ferro-alloys; drugs and medicines; insecticides and related chemical compounds; nylon and other synthetic textile fibers used in military equipment exclusively; grease and tallow; candle (Explosives, flares, and other fireworks generally classified as chemical products are included with ammunition.)

Production of rubber products: All rubber products.

Production of leather products: Belting leather; industrial belting for transmission of power; boots, shoes and gloves, for military and industrial use; saddlery, harness, and accessories.

Production of textiles: Spinning and weaving of silk and nylon for parachutes and powder bags; of canvas for tents, sails, tarpaulins, and other related heavy canvas products; cotton, woolen, linen and knit goods for military use.

Production of petroleum, natural-gas and petroleum and coal products: Drilling, rig building, and maintenance service operations, and petroleum refining. Includes also production of tar and pitch; coal gas, coke.

Production of finished lumber products: Cork products such as life preservers, storage battery boxes, and insulating material; oars, matches, and wood preservation activities, as well as wooden parts of aircraft, ships and other military equipment.

Production of transportation equipment: Motor vehicles such as trucks, ambulances, fire engines, buses and military motorized units; essential parts and accessories of such motor vehicles; motorcycles, bicycles, and parts; locomotives and parts; railroad and street cars and equipment.

Transportation services: Line-haul railroads and railroad service; switching and terminal services; railway express service; local and street railways and bus lines; trucking; warehousing of perishable commodities, stock piles, and essential materials; pipe lines; air and water transportation including shore services such as stevedoring. Includes also services allied to transportation such as freight forwarding and packing, operation of terminals and roads and tunnels.

Production of materials for packing and shipping products: Textile bags, vegetable and fruit baskets, cooperage, wooden boxes, excelsior, pulp and paper, paper bags, paper-board containers and boxes, glass and fiber containers, cordage and twine, metal barrels, kegs, drums, and cans.

Production of communication equipment: Including radios and radio equipment, television, telephone and telegraph equipment, and signalling apparatus.

Educational services: Public and private vocational training; elementary, secondary and preparatory schools; junior colleges, colleges, universities, and professional schools; educational and scientific research agencies.

WORLD'S PREMIER AIRPLANE FABRIC

Leading Manufacturers of Fabric and Tapes for the Aircraft Industry.

FLIGHTEX FABRIC

Export Representative: Aviation Equipment & Export, Inc., 25 Beaver St., N. Y.

Cable Address: AIRQUO

Round trip to Tokyo

THEY DID IT!

They flew over trackless sea into the setting sun of Nippon!

They hit their objectives right on the nose and winged their way safely back to base.

How they did it is no small cause for wonder to the man who is

used to following highway signs.

But to the skilled pilot who flies with precision instruments, the route is clearly marked.

Such are the instruments of every type built by Kollsman for fighting aircraft of the United States and Allied Nations.



as
Dutch
able
anese
have
acific
sent
watch
and
red to
(one-
d no
le to

electro-
ical prod-
um and
percentage
lines; in-
cal con-
magnetic tex-
equiment
candles
fireworks
cal prod-
minition.)
ucts: Al-

ets: Sol-
al belting
ts, shoes
industria
cessories
mining and
or para-
canvas for
other re-
cotton
for mill-

tural-gas
ts: Drill-
aintenance
leum re-

er pred-
life pre-
and in-
ches, and
as well
ships and

a equip-
s trucks,
ses and
essential
otor ve-
and parts;
oad and

ine-haul
switch-
way en-
railways
housing
ck piles,
ines; sh
including
redoring
o trans-
warding
terminals.

packing
le bags,
operage,
elp and
contain-
er con-
tal bar-

a equip-
i radio
one and
gnalling

nd priv-
mentary,
schools;
veritas;
cational
s.

942

MANUFACTURING

AWPC Reports Solving Hundreds of Bottlenecks

A record of cooperative action that has saved millions of man-hours in America's war production effort is revealed in a summary of the first six months' existence of the Aircraft War Production Council, Inc., first major regional cooperative association in the industry.

A detailed record of the Council's accomplishments in its half year of existence shows literally hundreds of instances where delays have been averted or airplane output speeded by free interchange of men, materiel, services and information by the Southern California companies located in the Los Angeles-San Diego area.

The report shows, for example, that there were 4,151 recorded instances of actual exchanges of materiel between the eight member companies, and upon specific requests members interchanged 494 engineering reports.

Specific examples of expedited production by cooperation reveals these recent cases:

Northrop increased production time during a week-end to supply Douglas with 35 furnace loads of heat-treated aluminum alloy which was required in the dive bomber program.

North American found itself short of screw machine equipment which threatened to stop a supply of vital production parts. With no other emergency source available NAA turned to Vultee and several million parts were turned out at the neighboring plant.

Vultee has done die-sinking work for Alcoa, not strictly a Council operation but an example of the cooperative frame of mind brought about by Council procedures.

Vultee recently took on several thousand man-hours of router work for Douglas.

Northrop supplied needed material from its stocks to help Douglas re-design a part in the main landing gear of the latter's C-54 Army transport production.

"Even more significant than the thousands of concrete, measurable

exchanges," said a Council official, "were the intangible benefits from the regular conferences of the Council's eight advisory committees. Here the industry's common problems, classified as to function, were deliberated by corresponding specialists from each company."

Within the past month, in reporting such meetings, the Council has produced 109 separate reports.

These eight functional committees, with full power to act in settling all emergencies, cover the fields of production, materiel, engineering and standards, transportation and housing, accounting, plant protection, industrial and public relations, and industrial training, with a special committee collaborating with Wright Field on spare parts problems.

In each such committee, meeting monthly to study and compare methods in each member plant, the best procedure for handling all common problems is developed. Often the result has been a standardized short-cut technique throughout.

Typical of the comment of officials of member companies was that of R. A. Lawson, works manager of Vultee Aircraft, Inc. "For altogether too long most of us felt that our problems were peculiar unto ourselves entirely and that in nearly all instances we, as individual companies, had arrived at the best solution for these problems. It was quite a revelation to discover that there were other and admittedly better methods of attacking the situation than those devised by ourselves. The 'open door' policy, so freely acknowledged by all of the member companies, has resulted in great benefits."

Northrop Aircraft, Inc.'s production manager, P. Buckner, said, "I feel that the Council has done more for the aircraft industry, from a cooperative viewpoint, in the six months of its existence than could ever have been done by individual effort.

Manufacturing Personnel



Gillmor

Horning

Colgate

White

Reginald E. Gillmor, a Fairchild director since 1941, has been elected to the executive committee of the Fairchild Engine and Airplane Corp., Hagerstown, Md. He is president of the Sperry Gyroscope Co., Inc., Brooklyn, N. Y.

Tyson Bearing Corp., Massillon, O., makers of cageless roller bearings and airplane engine parts, announces appointment of **John K. Colgate** of Oyster Bay, N. Y., and a director of Colgate-Palmolive-Peet Co., as vice president and treasurer.

Adel Precision Products Corp., Burbank, Cal., announces addition to its engineering staff of **Jack P. Horning**, for the past seven years west coast manager of the aeronautical division of Firestone Tire and Rubber Co. He will work with Adel's synthetic rubber specialties.

J. E. White, former vice president of R. C. Larkin Co., Chicago, has been appointed project manager in charge of new plant construction at the Kropp Forge Aviation Co., new subsidiary of the Kropp Forge Co., Chicago. **J. H. Lund**, for several years with Kropp Forge sales and recently in aviation forgings sales, has been made vice president.

C. W. Metzker has been appointed chief tool engineer at the Indiana plant of Curtiss-Wright Corp.'s Propeller Division. He succeeds **George Fleming**, who has been transferred to Curtiss-Wright's division staff in New Jersey. **R. G. Spillman** has been placed in charge of the Indiana plant's traffic and shipping department. At the Pennsylvania plant **Bernard Nolan** has been promoted to special assignments in the production superintendent's office.

Zeus Soucek has been elected vice president and Washington representative of Brewster Aeronautical Corp., Long Island City, N. Y., with Washington offices at Stonleigh Court, 1042 Connecticut Avenue, N. W. He was formerly in charge of Brewster's sales, before that vice president of W. L. Maxon Corp., New York, N. Y., and was for 10 years executive sales engineer for the Eclipse Aviation division of Bendix Aviation Corp.

Ralph B. Howard has been appointed assistant treasurer of the Arizona division of Goodyear Aircraft Corp., Akron, O.

Vern L. Carstens, formerly associated with the CAA, has been appointed acting chief pilot at Beech Aircraft Corp., Wichita, Kan.; he succeeds **H. C. Rankin**, now a captain in the AAF.

William T. Hedlund, a director of the firm, has been named president of the Elastic Stop Nut Corp., Union, N. J. He was formerly vice president of the Electrolux Corp.

Bell Aircraft Corp. announces promotion of the following: **Norman Shaw** to director of purchasing; **M. E. "Moe" Roe** to production control manager; **Charles J. Gray** to purchasing agent, ordnance division; **Felix L. Flech** to assistant production control manager; **Norman A. Lomas** to purchasing agent for sub-contracting division and **Paul B. Anderson** to assistant purchasing agent, ordnance division.



Shaw

Demming

Roe

Gray

Your Atlanta Hotel—

THE ANSLEY

... A LANDMARK
of Southern Friendliness

OTHER DINKLER HOTELS

*Tutwiler . . . BIRMINGHAM, ALA.
Jefferson Davis . . . MONTGOMERY, ALA.
St. Charles . . . NEW ORLEANS, LA.
Andrew Jackson . . . NASHVILLE, TENN.
O. Henry . . . GREENSBORO, N. C.
Savannah . . . SAVANNAH, GA.*



In this, as in all other Dinkler Hotels, the finest in accommodations and the highest efficiency in service is supplemented by a warm cordiality and an air of sincere friendliness.
L. L. TUCKER, Jr., Manager

BUILT TO TAKE IT

Against both the enemy and the elements America's big patrol bombers are demonstrating a ruggedness of construction without equal in the skies. Some of the most famous of these flying battleships are now built with numerous sections subassembled by Goodyear Aircraft Corporation. The skills Goodyear has learned in more than 30 years' aeronautical experi-

ence—a wide knowledge of light alloys, fabrication and stress engineering of aircraft structures—are now embodied in wing, tail, fuselage and cabin sections; stabilizers, elevators, fins, rudders and other metal-alloy parts that have proved their staunchness under fire. Today Goodyear designs and builds parts for all types of warplanes, fighters as well as bombers, and airships, too—builds them "to take it" as well as give it, to doubly insure Victory.

HOW GOODYEAR AIRCRAFT CORPORATION SERVES THE AIRPLANE INDUSTRY

1. By building parts to manufacturers' specifications.
2. By designing parts for all types of planes.
3. By re-engineering parts for mass production.
4. By extending our research facilities to aid the solution of any design or construction problem.

GOOD  **YEAR**
AIRCRAFT

MANUFACTURING

Look to Sterling for Leadership in Portable Sanders to speed production.

STERLING TOOL PRODUCTS CO.
389 East Ohio Street • Chicago, Illinois

Breeze Flexible Conduit
Girdles The Globe!



BREEZE Flexible Shielded Conduit is in active service today on world-wide battle fronts. Developed and perfected by Breeze, this conduit affords flexible protection and shielding for electrical wiring in aircraft, ships and tanks. Breeze is now producing this as well as many other items of war equipment in ever-increasing quantities.



BREEZE CORPORATIONS, INC., NEWARK, NEW JERSEY

56

Mac Short Heads SAE for 1943

Mac Short, vice president-engineering of Vega Aircraft Corp., has been named president of the Society of Automotive Engineers for 1943.

Aviation officials dominate the list of officers. In addition to Short, David Beecroft, of the Bendix Products Division of Bendix Aviation Corp., was named treasurer of the Society.

Among SAE Council members are T. P. Wright, assistant chief, aircraft section, War Production Board, and A. T. Colwell, vice president, Thompson Aircraft Products Co.

Vice presidents include John G. Lee, assistant director of research, United Aircraft Corp.; S. K. Hoffman, chief engineer, The Aviation Corp., Lycoming Division, and Grover C. Wilson, fuel research engineer, automotive and aircraft department, research and development laboratories, Universal Oil Products Co.

C. of C. Material Session Scheduled

Another Aeronautical Chamber of Commerce regional meeting by the Materials Procurement Committee will be held in Los Angeles Oct. 5, to provide exchange of ideas and discussion of problems between priority and procurement officials of the aircraft industry and representatives of WPB, Army and Navy. Invitations have been sent to

Although the Army refused to display great interest in plywood production as recently as the first of the year, it is understood in Washington that the industry was asked, beginning in July, to step up output tremendously over the previous rate.

At present, only three types of aircraft are being made from plywood to any extent, it is asserted—gliders, and fighter and bomber trainers. The British, however, have completed and are using in actual combat at least one all-wood type.

Plywood is certain to replace many more metal parts of combat aircraft, Washington officials say, especially on wing tips, fins and rudders.

Despite the demand for plywood and considerable shipments being exported, there is no critical shortage since metal parts which are also required for the same aircraft are not being delivered as rapidly.



LITTELFUSE Beryllium Copper Fuse Clips

are setting amazing new records in—

- (1) Fatigue resistance
- (2) Tensile strength
- (3) Modulus of Elasticity
- (4) Heat Resistance
- (5) Spring Qualities equal to Steel
- (6) Triple the grip of best phosphor bronze

Hundreds of thousands delivered to aircraft plants, Army and Navy

Technical Bulletin Now Ready!

Write for new bulletin giving complete technical data, properties, specifications, sizes, characteristics.

LITTELFUSE INC.

First in Aircraft Fuses—Pioneers in the Industry
4735 RAVENSWOOD AVE. CHICAGO, ILL.

We're proud of this—



AGAIN AMERICAN AVIATION has been nationally honored for editorial achievement. The certificate reproduced above has been won in the fifth annual competition conducted for the nation's business press by *Industrial Marketing*, well known monthly publication of selling and advertising.

A Jury of leading advertising and sales executives selected for this mark of distinction AMERICAN AVIATION'S article of February 15, 1942, exposing the low priority ratings given to aircraft in the war production program and resulting in an A-1-a rating being established within 48 hours after this issue was distributed. A service to the aviation industry has thus been given high honors by the leading publication of advertising and selling. We're proud of this award—and we're proud to be working for aviation, too.

EDITORIAL achievement is the highest aim to which a publication can aspire. Not a believer in mere lip-service for the industry to which it is devoted, AMERICAN AVIATION is a constructive builder for the great air age now dawning. This latest recognition is another demonstration of AMERICAN AVIATION'S consistent and increasing leadership and influence.

MANUFACTURING



"Gee, Mummy, are we really going to a HOTEL?"

Children love a hotel because of the Alice in Wonderland atmosphere—interesting people, good service, smooth elevators, exciting menus, magically appearing food that tastes so good. They love it, too, because it gives Mummy and Daddy time to be real pals.

AMERICAN HOTEL ASSOCIATION



"Mummy doesn't know how grown up I am. I like our private bath, and oceans of hot water. So many towels! And such a nice room—and a comfy bed! Maybe they'll let me take it home with its soft pillow and fluffy blankets."

No worries for Mummy and Daddy either. Hotels supply special chairs for tots at dinner, serve economical kiddie portions. Baby cribs are always on hand and hotels will sit with youngsters if you want to get out together.



Recognized hotels display this emblem



When You Go Away,
Make the Most of Your Stay
STOP at a HOTEL

N. Y. Taxis May Carry Workers to Plane Plants

Taxicabs ordered off the streets of New York by the Office of Defense Transportation to save tires and gas are expected to be used to transport Long Island aircraft workers living in Nassau and Suffolk Counties to and from their jobs.

The cabs, to be driven almost entirely by women, will supplement existing transportation facilities, already badly overtaxed.

Under one plan, workers will be charged \$3 to \$3.50 weekly for six days' transportation. This is about equivalent to fares they now pay on busses and trains.

Office of Price Administration has already approved the plan, and it is reported to have favorable consideration of ODT.

Treasury's Policy on Renegotiated Contracts Clarified

The tax effect in cases in which Government war contracts are renegotiated has been clarified by the Treasury Department in a recent statement of Internal Revenue policy.

The opinion states that companies returning money to the Government as a result of renegotiation of war contracts should refund only the amount of profits above Federal income and excess profits taxes paid or assessed on the sum involved. This opinion applies in cases when the renegotiating agreement provides for reduced contract prices to be retroactively applied to prior taxable years for which returns already have been filed and income and excess profits taxes already paid or assessed.

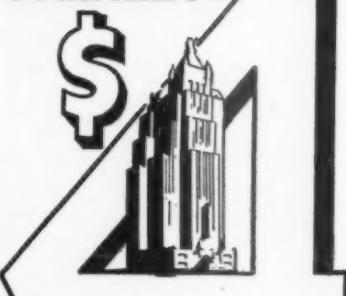
In such cases, no such refund or abatement of the taxes would be made since the taxes should be considered as a recapture of a portion of the excessive profits and as such a proper offset against the total excessive profits. The repayment should not be allowed as a deduction in the income and excess profit tax returns for any taxable year. To do so would result in a double tax benefit where the income and excess profits taxes have been offset against the excessive profits. Even though the right to such offset is foregone and the offset is not made, the repayment should not be allowed as a deduction in the returns, since the taxpayer should not be permitted to forego the right to the offset for the sake of obtaining a deduction for a year for which the deduction will result in a greater tax benefit.

Financial Briefs

HAYES INDUSTRIES, Inc., Jackson, Mich., reports net profit of \$917,984 for the fiscal year ended July 31, after provision of \$2,610,000 for Federal income and excess profits taxes and \$75,000 reserve for war time and post war adjustments. Working capital during the year increased by \$274,479, and the firm spent \$224,988 for additions to property, plant and equipment, including \$208,894 for emergency plant facilities.

MINIMUM RATE

Stabilized



Voluntarily, The Lexington stabilized its minimum rate—in 1939! It's still \$4.00—and more than one-half the total number of rooms in "New York's Friendly Hotel" are now, as before, available at that price—all outside with combination tub and shower, circulating ice-water, full-length mirror, four-station radio. Home of the famous Hawaiian Room.

Hotel Lexington

Charles E. Rochester, V. P. & Mgr. Mr.

LEXINGTON AVE. AT 48th ST., N.Y.C.

Outlines Procedure

The Bureau of Internal Revenue has also outlined procedure in cases where the renegotiating agreement becomes effective before tax returns have been filed or taxes paid or assessed. The reduction in gross income may be made, or the deduction may be taken in computing net income, although the renegotiating agreement has not been completed, provided at the time of filing the return, the negotiations have progressed to such an extent that the amount of the reduction in gross income, or the amount of the repayment in lieu thereof, is certain, and in filing the income and excess profits tax return such reduction is made or such reduction is taken. The Bureau agrees to advise applicants of the amount of excessive profits previously recaptured through income and excess profits taxes.

According to the Bureau statement, the same procedure would rule in cases involving a cost-plus-fixed-fee contract where an item for which the taxpayer has been reimbursed is disallowed as an item of cost and the taxpayer is required to repay to the United States the amount disallowed.

MANUFACTURING

Maintenance

(Continued from page 51)

equipment and more nearly mass production in their procedures.

Offsetting the possibly larger shops, we feel that a saving in hangar space may be realized by the elimination of long-time periodic overhaul layups. Mass production economies, while not fully realizable in maintenance, will go far toward justifying equipment investment.

Naturally, there will remain an appreciable amount of work which will have to be done directly on the airplane. Accessibility, built in by the manufacturer can offer the largest single aid in expediting this work. On all-metal aircraft, the bulk of this residual will be metal work. Accordingly, we will have to retain roving crews to handle this work with appropriate portable equipment and supply stores. Here, too, we may approach production line efficiency through adequacy and adaptability of equipment and portable supply "kits."

Lest anyone feel that the day of the all-around aircraft and engine mechanic is doomed by our production adaptation of maintenance, let's remind ourselves that emergency and line service will be a vital part of air transport maintenance as long as we continue to fly. These personnel, utility men by profession, will continue to play a major role in our efforts, supplementing the specialists.

In our application of the production version of continuous overhaul, we will still retain several types of services which will mean expansion of our maintenance routing. Over and above this, we may even have to consider possible moving production line maintenance as opposed to present "spotting" of the aircraft in the hangar, depending on the type of service to be applied.

Moving Line

This moving line maintenance is one element of the third and final basic consideration for future air transport maintenance. We have considered the aircraft itself as an operating entity and, secondly, the fundamental techniques of periodic, continuous overhaul and the decentralized production version of "continuous." Now, the mention of moving line maintenance takes us to a consideration of the mechanics for applying our fundamental technique.

We offer the production moving line only as a suggestion. It is a radical departure from present approaches, but we feel it has some merit and deserves some thought. It would be spasmodic in motion and unless planning is applied to it to a high degree, the hazard of congestion might be great.

Possibly a tread-width channel to accommodate the landing gear would permit engine, wing, empennage and fuselage maintenance on a tricycle-gear craft directly from the floor level or low platforms. Portable, reasonably low jacks could provide for landing gear retraction-checking in the channel.

Even in reducing the hazards to personnel using high stands, ladders and the like, the channel would be initially expensive and the usurpation of floor area by the low level of the wings with the aircraft so "countersunk" might make it impractical.

Production Awards

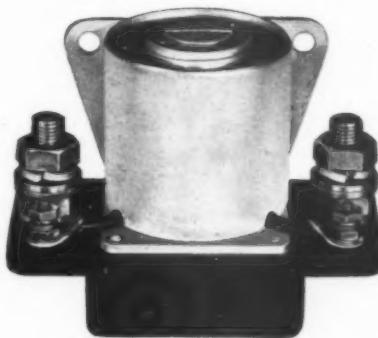
Among the 30 additional war plants which have been chosen for the Army-Navy Production Award, announced Sept. 14, are: The American Rolling Mill Co., East and Cen-

tral Works, Middletown, Ohio; Boeing Airplane Co., Wichita Division, Wichita, Kan.; Hayes Industries, Inc., Jackson, Mich.; Packard Electric Division, General Motors Corp., Warren, Ohio; Universal Building Products Corp., Dallas, Tex.



DESIGNED TO ARMY AIR FORCE SPECIFICATIONS...

by GUARDIAN



The B-4 Solenoid Contactor

★ Is your problem the transmission of power for control of aircraft armaments? Aircraft navigation? Aircraft accessory circuits?

If so, Guardian has the answer. Units range from a midget relay weighing less than one ounce and capable of controlling 150 watts... up to a Solenoid Contactor weighing less than two pounds and handling 200 amperes continuously (at 32 V., D.C.) and 1000 amperes on surges.

We've built single switches. We've built complex electrical assemblies that control machine gun turrets. And the aircraft industry and associate parts manufacturers know from these and hundreds of other units that they can count on Guardian for approved controls—that Guardian has the equipment and the "know how" to do their job right. And, above all... they know Guardian's reputation for quality delivery.

New circular on B-4 Solenoid Contactor available now. Write today.

GUARDIAN  **ELECTRIC**

1608 WEST WALNUT STREET

CHICAGO, ILLINOIS

LARGEST LINE OF RELAYS SERVING AMERICAN WAR INDUSTRY

MANUFACTURING

Advertisers In this Issue

Company	Page
Adel Precision Products Corp.	23
Aero Industries Technical Institute	24
Aircooled Motors Corp.	46
Aircraft Components Inc.	49
Airesearch Manufacturing Co.	45
American Airlines, Inc.	31
American Hotels Association	58
Beech Aircraft Corp.	47
Bendix Aviation Ltd.	43
B G Corp.	60
Breeze Corps.	56
Celanese Celluloid Corp.	15
Cleveland Pneumatic Tool Co.	41
Consolidated Aircraft Corp.	13
Curtiss-Wright Corp.—Propeller Div.	19
Darnell Corp. Ltd.	49
Dinkler Hotels Co., Inc.	54
Fleetwings Inc.	16-17
Goodrich Co., B. F.	33-36
Goodyear Aircraft Corp.	55
Guardian Elec. Mfg. Co.	59
Hayes Industries, Inc.	5
Joyce Aviation, Inc.	9
Kollsman Instrument	53
Hotel Lexington, Inc.	58
Littelfuse Inc.	56
Lockheed Aircraft Corp.	39
North American Aviation, Inc.	28
Pacific Airmotive	51
Piper Aircraft Corp.	48
Republic Aviation Corp.	2d Cover
Ryan Aeronautical Co.	7
Sterling Tool Products Co.	56
Suncook Mills	52
Texas Co.	4th Cover
Transcontinental & Western Air, Inc.	3d Cover
United Air Lines, Inc.	29
Vokes Ltd.	20
Weatherhead Co.	10
Western Electric Co.	30

Mercury on Glider Work

Mercury Aircraft Corp., Los Angeles, has been authorized by state officials to sell capital stock for the purpose of developing and constructing a prototype plywood glider.

Classified Ads

EXECUTIVE ASSISTANT

Wanted:—Capable man with management experience to act as Assistant to the President. Inquiries will be held strictly confidential and should be made to the Office Manager.

McDonnell Aircraft Corporation
St. Louis, Missouri

SALES MANAGER:—Must have considerable sales and aircraft experience. Please give qualifications, references and salary desired. Inquiries will be held strictly confidential and should be made to the Office Manager.

McDonnell Aircraft Corporation
St. Louis, Missouri



Contractors to the United States Army, Navy and Coast Guard and Aircraft Engine Builders.



On the Labor Front

AIR ASSOCIATES, INC.

Ratification of a labor contract has provided an average 10% wage increase for shop workers in the Bendix, Belleville and Lodi plants. Contract replaces one that would have expired December 24, and will be effective until six months after the war. Includes closed shop, dues checkoff, time-and-a-half for overtime, double time for seventh day in any week, seniority rules, paid vacations and six paid holidays a year. A no-strike clause is also inserted.

ALUMINUM COMPANY OF AMERICA

NWLB has negotiated a settlement of a wage dispute which threatened strike action in seven plants. Workers have agreed to accept the NWLB decision denying wage increases of \$1-a-day. Direct negotiations will be arranged for adjustments for "inequalities" and "sub-standard" wage rates. NWLB has ordered an increase of 20c an hour in bonus or piecework rates for hammermen at the Cleveland plant. Helpers receive 10c an hour raise, both retroactive to July 27.

AMERICAN CAR & FOUNDRY CO., Chicago, Ill.

UAW-CIO demands for higher wages and union security have been certified to NWLB.

AMERICAN ROLLING MILL CO., Ashland, Ky., plant.

Company was ordered by NLRB to cease discouragement of membership in CIO and to disestablish an independent employees' group . . . also to reinstate back pay, 21 workers discharged for union activity.

BENDIX AVIATION CORP., Bendix Products Division, South Bend, Ind.

Company is directed by NLRB to hold an election for employees to vote for or against UAW-CIO for bargaining representation.

CORNELL DUBILIER CONDENSER CORP., S. Plainfield, N. J.

NWLB will hold a hearing in New York City upon CIO objections to the conduct of a collective bargaining election held recently.

FLEETWINGS, INC., Bristol, Pa.

UAW-CIO reports that it has won a NLRB election for bargaining representation.

GENERAL CHEMICAL CO., Buffalo, N. Y.

NWLB has refused to include a maintenance of membership clause in new union contract because workers went out on a strike although they had agreed not to do so. This is the second time such a penalty has been imposed; previous time was upon employees of Monsanto Chemical Co.

B. F. GOODRICH CO., Akron, O.

Company is ordered by NWLB to include in contract with United Rubber Workers of America-CIO, maintenance of membership clauses similar to those of recent Board decisions. A detailed wage study is also directed. Union requesting 10% increase for all production workers and 15% for those in engineering division.

GOODYEAR TIRE & RUBBER CO., Akron, O.

After strike threats, a dispute concerning working hours has been mediated. The tire department will go on an 8-hour shift basis, replacing the 6-hour shift prevalent throughout the rubber industry in that area. This may establish a precedent leading to a general 8-hour shift plan in other departments and in other rubber plants.

NOORDUYN AVIATION LTD., Montreal, Que.

Jointly with Canadian Vickers, Ltd., and Fairchild Aircraft, Ltd., company opposed an IAM plea to Humphrey Mitchel, minister of labor, and Ralph D. Bell, director of Canadian aircraft production, for a "full cost-of-living bonus \$4.25 per week."

NORTH AMERICAN AVIATION, INC.

DISPENSING with the original plan for a wage stabilization conference, NWLB arranged for representatives of WPB and the Labor Department to go to the West Coast to study and act upon wage problems now before NWLB. First consideration will be given to the North American case. If a satisfactory settlement is made, it may be considered a pattern for similar settlements of other aircraft wage problems.

PHILLIPS PETROLEUM CO., Phillips, Texas.

A NLRB election has been won by International Union of Operating Engineers-AFL at the Borger District plant. Phillips Kansas City, Kansas plant is recommended by NLRB to withdraw all recognition from Phillips Employees' Independent Union and cease giving effect to its contract of March 3, 1942 with that organization; also cease discouraging membership in Oil Workers International Union-CIO.

SHELL OIL CO.

NWLB decision denied wage increase for workers at Deer Park Refinery, Texas. NWLB panel recommended, however, that the Oil Workers International Union-CIO and the company negotiate for "elimination of inequalities in wages for specific occupations covering about 20% of the workers." Shell Oil Company of San Francisco dispute over wages and closed shop has been certified to NWLB.

THOMPSON PRODUCTS, INC.

Controversy between UAW-CIO workers at the Euclid plant over the claim that company discriminated against union members has been certified to NWLB.

WRIGHT AERONAUTICAL CORP., Paterson, N. J.

Company and the Wright Aeronautical Employees' Association are asked voluntarily to disestablish the association upon the complaint of UAW-CIO that company dominates the union. The Department of Labor has assigned a technical advisor, at the request of NWLB, to make a study of the job classification dispute which recently caused work stoppages at the Fair Lawn Foundry and which threatened to spread to other plants.

At the Lockheed, O., plant, Philip G. Phillips, regional NLRB director, has issued a complaint charging the company with interfering with the self-organization of their employees. Charges were made by UAW-CIO and IAM-AFL.

MAIL ME THE NEXT
YEAR OF AMERICAN
AVIATION and send bill
for \$3.00

1 year \$3.00, for U. S., Mexico, Central
and South American Countries.
Canada: 1 year \$3.50. All other countries
1 year \$4.50.

Send magazines to

Name _____

Address _____

City and State _____

Occupation _____ Company _____

Send bill to

Name _____

Address _____

City and State _____

POSTAGE
WILL BE
PAID BY
ADDRESSEE

NO
POSTAGE
STAMP
NECESSARY
IF MAILED
IN THE
UNITED
STATES

BUSINESS REPLY CARD
FIRST CLASS PERMIT NO. 2455-R. SEC. 510 P. L. & R., HARRISBURG, PA.

**AMERICAN AVIATION
ASSOCIATES, INC.**

American Building,
Washington, D. C.



Vanishing Borders

For centuries, borders between nations have marked our maps.

Too often these borders were barriers, impeding cultural interchange—breeding suspicion and jealousy and war.

In modern warfare, air power makes a mockery of borders. For wings surmount barriers, whether man-made or natural.

Wings of war are crossing and recrossing many borders, deciding the fate of nations, turning the tide of battle. Their task is to clear the skies of warfare.

In their wake shall follow the ever-broadening wings of peacetime commerce. To air transportation of tomorrow, with borders forever erased, shall fall the task of world unification.

TRANSCONTINENTAL & WESTERN AIR, INC.





No oil drains required BETWEEN OVERHAULS

LONG RECOGNIZED throughout the aviation industry for its exceptional maintenance facilities and practices, Northwest Airlines is now operating from overhaul to overhaul *without draining oil*.

The lubricating oil that provides such service is *Texaco Aircraft Engine Oil*.

For seven years, Texaco has assured Northwest of continuously *clean engines, free rings and valves, minimum cylinder and bearing wear*. Northwest's preference for Texaco is reflected by the entire industry, as—

More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

The outstanding performance that has made Texaco FIRST with the airlines has made it FIRST in the fields listed in the panel.

Texaco users enjoy many benefits that can also be yours. A Texaco Aviation Engineer will gladly cooperate in the selection of Texaco Aviation Products, available at leading airports in the 48 States.

Phone the nearest of more than 2300 Texaco distributing points, or write to: The Texas Company, *Aviation Division, 135 East 42nd Street, New York, N. Y.*

THEY PREFER TEXACO

★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

★ More buses, more bus lines and more bus-miles are lubricated with Texaco than with any other brand.

★ More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.

★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

★ More locomotives and cars in the U. S. are lubricated with Texaco than with any other brand.

 TUNE IN: FRED ALLEN
every Sunday night—CBS



TEXACO Lubricants and Fuels FOR THE AVIATION INDUSTRY

HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

Vol. 6

FO
R

TH
a
ance
the
the
ment
the
cism
The
ing.
sions
rea

It
speed
verab
anoth
the
"The
acad
com
plane
form
when
two
eve
It is

Ne
theat
comm
studi
plane
again
clic
gaine
armo
our
in co
get
often
qual
built
the

Th

XUM